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Some Observations on the Storage of Honey

By C. H. Gilbert

Wyoming Experiment Station

DURING times of overproduction or when markets are dull, beekeepers often store honey and hold it from one season to the next. Despite this rather general tendency, very little data on storage temperatures are available to the beekeeper.

Recommendations as to the correct storage temperature for honey vary somewhat, but the usual one is to "store honey in a warm, dry place." In fact, the following statement is taken from the University of Wyoming label: "Keep honey in a warm, dry room. Do not store in a cellar or ice box." These recommendations have not always worked out satisfactorily, and the following tests were conducted to determine if possible tne effect of storage temperature on honey. The results obtained were very interesting to the writer and are given here in the hope they will be of equal interest to others.

The purpose of the experiment was three-fold: First, to observe any color change in honey during storage; second, to test the effect of different storage temperatures upon color change; and third, to watch the rate of granulation of samples stored at different temperatures.

In order to simplify this report the results of a few tests will be given separately.

Test No. 1. For the purpose of this experiment a 60-lb. can of honey was taken at random from the honey house. The honey was partially granulated and was heated to 130° F. until liquid. The honey then graded 1.4 (extra white).

Standard 8-oz. honey jars were filled with this honey to be used as samples. Six jars were prepared as controls (not to be heated), and the balance were heated at various temperatures over an electrically controlled water bath. These jars were heated at temperatures varying from 86° F. to boiling. The length of time of heating varied from one to nine hours.

When the heating process was completed, the jars were packed in corrugated paper and placed in the storage cabinets. One cabinet was heated to 70° F. and one cooled to 38°. The samples were placed in the cabinets January 7, 1930. On January 22, 1930 the honey in all control jars was partially granulated. The crystals of granulation were observed to be very small in the cold cabinet. On May 1, 1931 all control jars were granulated solid. The crystals of granulation in the samples stored at 70° F. were observed to be large and very irregular. This gave a dark, watery appearance to the samples. The crystals in the samples stored at 38° F. were very small and of a creamy appearance. The color was light and the samples were uniformly beautiful products. None of the heated samples were granulated.

On August 10, 1931 all heated samples were granulated some. All samples in the 70° F. cabinet were granulated more than those in the 38° cabinet. Crystals of granulation were much larger in the 70° F. samples than in the 38° samples.

On August 10, 1932 it was found necessary to move all the samples stored at 38° F. They were then placed in a cabinet held at 29° F. The samples are still held at that temperature.

On November 8, 1933 the samples were all opened and color graded. The results are shown in the following table.

SAMPLES STORED AT 70° F.

Sample No.	Color Grade Jan. 8, 1930		Color Grade Nov. 8, 1933	Degrees Darkened
	Before Heating	After Heating		
Control 15	1.4	1.4*	6.0	4.6
No. 1	1.4	1.5	5.5	4.0
No. 2	1.4	1.8	5.5	3.7
No. 6	1.4	2.6	6.4	3.7
No. 9	1.4	1.7	5.1	3.4
No. 10	1.4	2.3	6.3	4.0
No. 11	1.4	2.6	6.5	3.9
No. 12	1.4	3.5	6.5	3.0
No. 16	1.4	2.2	5.6	3.4
No. 17	1.4	3.5	6.8	3.3
No. 18	1.4	4.6	7.5	2.9
No. 19	1.4	6.0	8.2	2.2

SAMPLES STORED AT 38° AND 29° F.

Sample No.	Color Grade Jan. 8, 1930		Color Grade Nov. 8, 1933	Degrees Darkened
	Before Heating	After Heating		
Control 1	1.4	1.4*	1.8	.4
No. 3	1.4	1.8	2.8	.5
No. 4	1.4	1.5	2.0	.5
No. 7	1.4	2.6	3.0	.4
No. 8	1.4	1.7	2.1	.4
No. 13	1.4	3.5	3.7	.2

*Not heated.

The following table gives a comparison of samples which were identical except for storage temperature. was taken from regular stock and tested 0.8. Samples were placed in standard 8-oz. jars. None of the

Sample No.	Color Grade Jan. 8, 1930		Color Grade Nov. 8, 1933		Difference in degrees darkened.
	Before Heating	After Heating	70° Cabinet	29° Cabinet	
Controls 1-15	1.4	1.4*	6.0	1.8	4.2
Nos. 4 and 1	1.4	1.5	5.5	2.0	3.5
Nos. 3 and 2	1.4	1.8	5.5	2.8	2.7
Nos. 6 and 7	1.4	2.6	6.4	3.0	3.4
Nos. 8 and 9	1.4	1.7	5.1	2.1	3.0
Nos. 12 and 13	1.4	3.5	6.5	3.7	2.8

Every sample stored at 70° F. darkened several degrees during storage, while those stored at 29° and 38° darkened very slightly.

Test No. 2. Honey used in this test was taken from regular stock and graded 1.7. In this test samples were placed in standard 2½-lb. pressed in lid containers and 1-oz. jars. One-half the samples were sealed with sealing wax and the balance left as usual with lids tightly placed. Heated and unheated samples were prepared for each temperature cabinet. The samples were placed in the cabinets on February 10, 1933. The temperatures of the cabinets were 70°F., 46° F., and 29° F.

On April 18 all unheated samples were granulated. Samples appeared as described in the previous test. Granulated samples in the 46° F. cabinet were much finer than those in the 70° F. cabinet. On November 10, 1933 the samples were color graded. All samples in the 70° cabinet graded 2.0. They had darkened from 1.7 to 2.0. No color change could be detected in samples in either of the other cabinets.

On February 23, 1934 the samples graded as follows: samples stored at 70° F. 2.9, 46° 1.7, and 29° F. 1.7.

The samples stored at 70° F. had darkened 1.2° on the grader while no color change could be detected in samples stored at lower temperatures.

There was no difference in the amount of granulation or color change in sealed and unsealed samples.

Test No. 3. Honey used in this test graded 1.7 and samples were placed in the temperature cabinets February 8, 1933. The samples were stored at 70° F., 46° F., and 29° F.

On February 23, 1934 the samples graded as follows, 70° F. 2.5, 46° F. 1.7, and 29° F. 1.7. A marked color change had occurred in samples stored at 70° F. but no change could be detected in samples stored at 46 or 29 degrees F.

Test No. 4. Honey for this test samples were heated. The samples were placed in the temperature cabinets November 27, 1933. The temperatures of the storage cabinets were 70° F., 46° F., and 29° F.

On December 10 all samples were granulated slightly. Crystals of granulation in the samples stored at 70° F. were considerably larger than the crystals in samples stored at lower temperatures. On January 10, 1934 the crystals in samples stored at 70° F. were more than twice as large as those in samples stored at lower temperatures. Samples stored at 29° F. and 46° F. appeared somewhat cloudy, due to fine granular material throughout. Samples in the 70° F. cabinet had large crystals throughout, with large numbers of crystals on the bottom and sides of the jars.

No color change could be detected.

On February 24, 1934 the samples graded as follows: 70° F. 1.1, 46° F. 0.8, 29° F. 0.8. The samples stored at 70° F. had darkened slightly and no color change had occurred in samples stored at lower temperatures.

During the tests the following general observations were made.

Unheated (control) samples granulated quite rapidly in all cabinets.

Crystals of granulation in the samples stored at 70° were large and irregular. The granulated mass appeared coarse and dark.

Crystals of granulation in the samples stored in the cold cabinets were very fine. The granulated mass appeared to be light in color and of a creamy consistency.

Heated samples did not granulate as rapidly in the 29° F. and 46° F. cabinets as they did when stored at 70° F. After three years' storage, several samples were still quite liquid, with some granulation on the bottoms and sides.

There was practically no color change in samples stored for three and a half years at 29° F.

A marked color change occurred in all samples stored at 70° F.

In liquefying honey for color grading, the samples taken from the cold cabinet became liquid more rapidly than samples taken from the 70° cabinet. This is due, perhaps, to the very small crystals formed at lower temperatures.

Unheated samples granulated about the same time in all cabinets. Samples in the cold cabinets appeared somewhat cloudy because of the very small crystals of granulation. Samples stored at 70° F. have fewer crystals of granulation, but they are much larger and appear on the sides and bottoms of the jars.

Queensland Honey Pool Extended Five More Years

Your readers will be interested to learn that the honey pool in Queensland, Australia, has been extended by vote of the beekeepers for another five years. This is the first time that the Queensland beekeepers have had a chance to express their opinion about controlled marketing and the vote is an expression of approval of pooling such as we have had here in this country.

The voting was one hundred for and seventy against the continuation of the pool. Such a vote would have seemed like a condemnation of the pool if it had been given in normal times but as the depression prices are said by some to be the result of the pool, the comparatively large vote against the pool can be easily understood.

Since beekeepers in your country are talking about a code, it may interest them to learn how this pool is run. **The pool did not at any time attempt to raise prices.** All its effort was directed to selling honey wholesale. Sales were made in competition with those from other states and when a big crop caused large supplies, the price was lowered to stimulate distribution. Beekeepers were compelled to sell wholesale through the pool's agent and merchants were not able to play one beekeeper against another. **The retail sales of beekeepers were not affected.**

The lowered prices which were made during the glut were passed on to the consumer. Without that I do not believe that the honey industry in Queensland would be sound today. Higher prices would have decreased the demand and caused a glut in the wholesale market. This is an aspect of pooling that your code formers do not want to forget, for the law of supply and demand is still in good working order.

Other pools which succeeded in raising prices for their product were not so successful in the end. They succeeded in increasing the number of producers or the output of those already in and finally there was a

glut of their products. This glut was made worse by the economic depression. Even without the depression, however, the increased supply must have embarrassed the pools in the end.

So after observation of several pools in this country, I would say to the beekeepers in the United States **do not try to raise prices through a code.** Try to secure better returns by eliminating waste and undue competition if undue competition exists. With a wide range of available markets, you people should not have much competition among yourselves. With us undue competition was our worst trouble. John H. Rosser,
Australia.

Story and a Half Hives for Winter

We had a dandy visit with the son of Floyd Rae, of Minnesota, not long ago. He gave an interesting account of their method of wintering bees. They use a story and a half Langstroth hive. The half story is a food chamber which stays with the colony all the time and, when full of honey, leaves the bees with plenty of stores and there is little worry over fall or spring feeding. This food chamber is always left with the colony and may take its place in the supers during the honeyflow at any particular point. It never leaves the hive. It is a part of the permanent equipment. All of the other honey stored may be removed and extracted without any worry of leaving enough for the bees.

When winter comes, the bees are left outdoors and each colony consists of a hive body with the half story of food above. Two colonies are packed in a case of tar paper filled with straw, about eight inches of straw on top and three or four inches on the sides, front and back with the tar paper held at the bottom as in the Iowa cases so often described.

Each hive is provided with a center entrance just between the half depth food chamber and the full depth hive body below. This center entrance has given very good results in wintering, not only in Minnesota but in North Dakota. It follows largely the idea of Mr. Brown of Illinois. It has been adopted in British Columbia as a standard winter practice and is taking the cellar out of the wintering of northern beekeeping.

The tendency of beekeepers is to become systematized in their work to figure ways of keeping bees which can be repeated year after year with the least effort and with the least study so that bees can be all treated alike, worked in large units with little attention to individual colonies.

Nowadays there is little worry about miscellaneous losses because of the availability of bees in the South.

Granulation of Sugar

By J. V. Stuyvesant
California

I have been a careful reader of bee literature and by that means, as well as by personal experience, I am convinced that location, climate, and many other variable conditions greatly alter bee behavior. They also alter quality, quantity, flavor and color of honey, as well as the nectar flow from certain plant sources in any particular locality.

I think it is a generally recognized fact among honey producers around here, that when we have a wet season followed by a generous nectar flow, our honey is much lighter in color and milder in flavor than in dry seasons when nectar is scarce.

I noticed a statement by J. J. Wilder on page 324 of the July number referring to the granulation of honey, in which he says: "Honey in its natural state will not granulate but after it is heated, it will." That has no doubt been Mr. Wilder's experience with the honey he has handled but it is contrary to my experience with most of the honey I have seen here. It granulates quickly after removal from the hive, even when left in the comb.

I have seen statements to the effect that heating honey to 160 degrees and cooling it quickly will retard granulation. While that sometimes seems to help, at other times it seems to make little difference and the honey quickly granulates again.

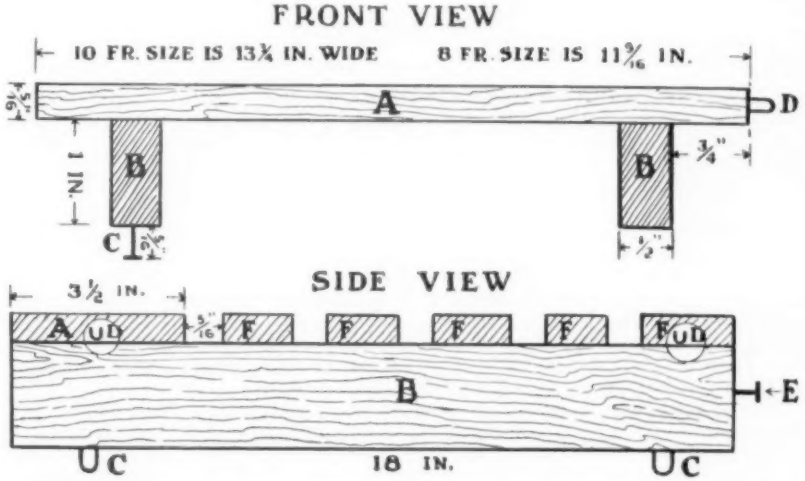
Our honey here is nearly always a mixture of nectar from white sage, wild buckwheat and small amounts of other wild plants that affect the flavor more than the volume.

Sometimes, as last year, wild alfalfa adds to the volume but that was the first time I have noticed much coming from that source.

I filled glass jars and small tins direct from the settling tank September 17 and 22, 1933, and in a few weeks all were solidly granulated. I do not know if that would be considered as rapid granulation or not but I would consider it to be such. It certainly makes a difference what honey is under consideration when granulation is being discussed.

The False Bottom

A NUMBER of questions have been asked about the construction of the false bottom described by Mr. Kruse in his articles on comb honey. Here are pictures of it. The following is a description from Mr. Kruse:



"The top view shows the false bottom as seen from the front. Top boards, marked A (also F), must all be 5/16 of an inch in thickness and A must be at least 3½ inches wide. This will be next to entrance.

"Rails B-B are 18 inches long, 1 inch wide and ½ inch thick. These are placed ¾ of an inch from ends of top boards. There are four staples in bottom of rails, one ¾ of an inch from each end marked C. These are left 5/16 of an inch long. There are two staples at each side (D) 5/16 of an inch long to keep false bottom away from side rail of hive bottom.

"A nail is driven into the back end of each rail (B) 5/16 of an inch long to keep away from back rail. The bottom boards of our hives are all two inches deep. Therefore, the above measurements will allow just 5/16 of an inch above false bottom and bottom of frames. Top boards F can vary in width but space all equal distance apart, 5/16 of an inch."

Attend the Southern Conference

The Southern Conference which is to be held at Valdosta, Georgia, just inside the Florida line, on December 17, offers an unusual opportunity for northern beekeepers in many ways. In the first place it gives them a chance to take a little vacation in the South. In the second place, they will have an opportunity to attend one of the biggest meetings of beekeepers that has ever been held in this country.

In the third place, the northern buyer of queen bees may come directly in contact and make personal acquaintance with the large number of package and queen shippers who will be attending that meeting.

The editors know, from personal experience, what a fine bunch of folks those southern breeders are. Every beekeeper who can ought to get a first hand acquaintance with them.

Many of our misunderstandings and criticisms are because we do not know the other fellow. This offers the unusual opportunity of getting in touch with the breeders with whom beekeepers in the North have dealt for many years and to iron out any little misunderstandings which may have occurred largely through lack of personal contact.

As stated previously, we believe this is going to be one of the largest meetings in point of attendance and in representation from different states we have had in many years. The opportunity should not be overlooked either by the southern folks or by those livng in other points in the country who have the interest of beekeeping at stake.

National Honey Week

The success of National Honey Week depends upon the cooperation of individual beekeepers. The Institute can accomplish much through the cooperation of national advertisers who call attention to our product in their radio and newspaper advertising but it remains for the beekeeper to finish the job. If every beekeeper would do something to call attention to honey during this special week, the housewives of the nation would respond by buying honey on a scale never before known.

We suggest the following things which every bee man can do with little inconvenience:

1. Ask your librarian to call special attention to books on bees at your local library during the week. Feature especially books about bees rather than books on beekeeping since the general public does not care to learn how to produce honey. Ask your library to secure such books if not already on hand. Maeterlinck's "Life of the Bee," Sharp's "Spirit of the Hive" and Pellett's "Romance of the Hive" are examples of books of this kind.

2. Ask your local baker to feature items made with honey. If he does not have proper recipes write to the American Honey Institute and send five cents for a copy of "Honey in the Bake Shop."

3. See your superintendent of schools and arrange for talks about bees and honey. Provide for an illustrated lecture to high school students and college students wherever possible.

4. Interest your local newspaper in printing stories about bees and honey. It is best where possible to make use of a story of local interest. People are always interested in what is happening in the community.

5. Provide an observation hive for some prominent location. The lobby of the bank is a good place or the window of a prominent store.

6. Write to American Honey Institute at Madison, Wisconsin, and ask for their suggestions for cooperating. Send along some stamps or bills to help pay expenses since they are assisting thousands and it takes money to pay for printed matter and postage.

Importance of Pollen

The importance of an abundant supply of pollen for spring brood rearing is not fully appreciated by the rank and file of beekeepers. When removing the present crop from the hives the beekeeper may well have a care to preserve a liberal number of combs which contain pollen. The combs immediately above the brood nest are likely to be well supplied with pollen for that is where the bees naturally store their reserves. Our grandfathers spoke of "bee bread" and that it is in very truth. Without a plentiful supply of pollen colonies will build up very slowly next spring.

Last spring there were reports that package bees did very poorly in localities where the absence of spring flowers failed to provide the needed pollen. In extracted honey production it is important that the beekeeper bear this fact in mind when removing his crop. If he lives in a locality where there is a scarcity of spring pollen supplies he should make sure to preserve what the bees have stored with this year's crop. In the old bee magazines will be found many references to pollen clogged combs. In the comb area above the brood nest it is common to find the cells half filled with pollen with enough honey over it to preserve it from spoilage. The bees know their business but too often the beekeeper fails to recognize the fact and leaves them in poor shape for brood rearing by taking away the store.

Loss of Bees

The general reports of the loss of bees through starvation are very disturbing. Not for many long years has there been a time when so many bees have been lost during the summer months. Such reports come from widely separated localities—California, Colorado, Iowa, Texas and other places. If this heavy summer loss should be followed by winter losses also we will start the next season with a very light stock. The fact that so many colonies will go into winter quarters with insufficient stores indicates unusual winter losses as a natural result of the same conditions which caused the summer misfortunes.

Under such conditions every beekeeper should take unusual care to see that every colony is put in the best possible condition for winter. It looks as though bees will be good property next year.

Rain

Good rains have fallen over much of the territory which suffered so severely from drouth during the summer months. While coming too late to be of much help to this year's crops this much needed moisture has saved many trees and shrubs and is putting the soil in shape for next season. The subsoil is so dry that long continued rains will be needed to insure normal conditions once more.

Viewpoint of the Housewife

The Food and Drug Reporter recently contained a most interesting story of why the housewife buys honey. A survey was made by students of the School of Commerce of New York University under direction of Professor Dale Houghton for the John G. Paton Company, honey dealers of New York.

About a thousand housewives were interviewed by the eighty students assisting in the survey. It was found that 94 per cent of the buyers prefer honey in glass and that only 33 per cent have any preference for a particular brand of honey.

The surprising revelation was that fully 75 per cent of the housewives interviewed bought honey for its health qualities. Many were found who buy honey as a remedy for a surprisingly large number of common ills.

While honey is recognized as a healthful and easily digested sweet no recognized authority recommends it as a remedy for disease. The survey indicates that old time impressions still persist and that many still regard it as more of a medicine than a food.

The Paton Company is to be commended for undertaking a survey of such an extent.

The facts brought to light serve to emphasize the importance of an institution such as the American Honey Institute for the purpose of placing dependable information about honey before the general public in the widest possible manner.

Bees Not Guilty

The florists' magazines manifested much interest in the Philadelphia case where a florist brought suit against a beekeeper for damage by the bees. It was contended that the bees pollinated the snapdragons and thus caused the flowers to wither and become unsalable much sooner than would otherwise be the case. It was also contended that the bees frightened and repelled customers and thus were responsible for lost sales.

Judge McDevitt dismissed the case on the ground that there was no evidence that the bees were inherently vicious. The plaintiff was unable to identify the bees as the property of the beekeeper against whom suit was brought.

So once again the courts find the bees "not guilty" and leave the beekeeper free to carry on. Such cases, however, indicate the necessity of great care where bees are kept in cities to avoid giving offense.

Encourage Special Outlets

There are many beekeepers in position to offer special products such as honey jelly and honey candies. These can be sold through the usual channels of trade or at roadside stands or other specialty shops. While the amount of honey consumed by the individual tradesmen in such a venture is small the total of such sales offers an important outlet and has a marked effect on the stability of the industry.

Honey cookery is attracting many, and numerous housewives are adding substantially to their income by making and selling homemade pastries. It is surprising how much can be added to the family income in time of stress by making and selling such products as these.

Weather and Honey Production

With all the comment that has been made about the uncertainties of beekeeping for lack of understanding of factors governing nectar secretion, but little progress has been made toward an understanding of the subject. J. L. Strong, an Iowa beekeeper, kept a daily record of the gain or loss of a colony on scales for twenty-five years. He carefully recorded weather conditions during all that time. From these records L. A. Kenoyer prepared a bulletin published by Iowa State College which provides most of the available information in that field. Since an entirely different result would come under different climatic conditions this work is of but little help to beekeepers in other regions. Dr. O. W. Park, of the Iowa Experiment Station, has also done some original work in observing the behavior of bees in honey gathering and their relation to the plant sources during the honeyflow. Results of these observations have been published only in part.

In 1925 a bulletin was published by the United States Department of Agriculture entitled "Effect of Weather Upon Change in Weight of a Colony of Bees During a Honeyflow." Although the title was rather cumbersome, this bulletin by James I. Hambleton deserves more attention than it has so far received.

So many factors are involved in this problem that it is hopeless to expect any observer to bring forward any full and complete outline of the whole subject. Because no striking result has been published the labors of men in this field have not received more than passing attention and consequently little encouragement has been offered to continued search. A knowledge of the effect of environmental influences on nectar secretion is fundamental to successful honey production and more work in that direction should be attempted.

Wintering the Bees

The weather prophets seem to be generally agreed that we are facing a long and cold winter. Not much faith can be placed on such prophecies but the prudent beekeeper will prepare his bees as carefully as though he knew that surely such a winter was coming. The winter loss was very heavy in many eastern localities during the past season and these losses have not yet been fully replaced. Add to this the very unusual loss during the dry summer that is just past and we find a material shortage in the normal population of honeybees. With an increasing demand for honey and rising prices there is every reason for the beekeeper to give the best attention possible to his bees.

While methods of wintering vary in different localities there are certain factors which are important everywhere. Strong colonies of young bees with vigorous queens and abundant stores are essential whether the beekeeper lives north or south. A good windbreak is of more importance than extra packing where the bees are wintered out of doors, although both are needed.

Too Much Water

Just when our American publications were filled with discussion of the drouth, along came the South African Bee Journal with equally doleful accounts of the failure of the honey crop because of too much rain. The magazine contains several articles which discuss the influence of the weather and the fact that heavy rains cut short the honeyflow.

What of the Future?

Occasionally a letter comes to the editor's desk from some young man who wishes to know whether it is safe for a young man to depend entirely upon honey production as a source of livelihood. The editors of this magazine quite naturally are optimistic about bees. All we have we owe to them. However, there are signs which indicate that beekeeping will be an even better dependence in the future than it has been in the years that are gone.

Students of nutrition are educating the public to the use of natural foods. They are teaching that such highly refined foods as sugar and white flour have lost something which is needed in the human diet. As a result there is a return toward the former use of honey as a staple in household use. Bakers are finding that honey serves a very useful purpose in their trade and many carloads are finding their way into the bakeries of the country. Hundreds of new outlets for honey have appeared in recent years and in order to hold this market a dependable supply of honey must be produced. To follow this trend to its proper conclusion it is necessary that there be some expansion in the honey producing industry. The natural growth of the industry is therefore promised a suitable reward and we have no hesitation in advising one who loves the bees to stick to beekeeping.

How Long Will a Queen Last?

By L. L. Ferebee,

South Carolina

I NOTE questions in recent issues about how long a queen may last and how often bees should be requeened. The editor answered "three years" which would be about right. Let me tell you my experience.

About ten years back Nosema Apis or paralysis appeared among my bees and until then I had practiced requeening for about twenty-three years only when a colony showed a lack of bees or if they requeened themselves until they became black or when I thought the queens were failing.

A colony will quite often requeen itself once or twice a year. Clip the wings of the queen so you will be sure to find out what they actually do. You will see this is true. Other queens will keep right on laying fine for two or three years.

When Nosema appeared, I was advised to requeen all bees that showed it. This seemed to effect a cure in about ten weeks and I soon learned by experience that the colony would soon store more honey than others in the yard.

The final outcome was that my average honey production was stepped up from thirty pound yearly average until now, each year, with some variation, I average about sixty pounds per colony spring count. This change has been going on for about ten years during which time several of our old standbys such as gallberry have been totally destroyed and we get nothing from them any more. Tupelo in that time has also been about four-fifths destroyed and yet our average yearly increase per colony has been higher than ever.

Time after time I would go into the yard to select a breeder with honey gathering as the first consideration. I thought maybe I was not getting a queen that was quite prolific enough to suit me. Yet in about six weeks, she would seem to be doing better and yet with the increase in bees, there would be an inverse decrease in honey gathering qualities. Some of them after staying in for the second year would get so strong in bees that each week a comb or two of brood would have to be taken away to some other place to keep down swarming.

Once a queen became a year old or more, each breeder colony would show a lessening of honey gathering and would be replaced by a queen whose colony seemed to gather more.

Also, frequently the older they got, the crosser they would become. We have put out a four-frame nucleus and had it stored full of honey while building up after giving them a young queen. Then a super was added and filled; then another. These were extracted and replaced and it took three stories to hold the strong colony.

They were left this way for a year and the next season would pass with them setting right there and not getting half of one super but a newly requeened colony set right by the side of them at the beginning of the season with only a couple pounds of bees would store one or two supers of honey.

This certainly did puzzle me for many years but when Nosema came, it demanded a young queen each year. Sometimes two of them in twelve months as we find it imperative to requeen each colony in the late fall or this trouble will show up in the spring and the colony is of no value until it has a new queen, and her bees have appeared. Then presto, every colony so managed will give one or two supers of honey and not one single colony fails to give a good harvest.

Years ago, before the time of requeening each season, about two out of three of our colonies would fail to give us more than from nothing to ten pounds and our average was only thirty pounds. This also takes into account keeping down swarming for we have never succeeded in getting a honey crop from any bees that were allowed to swarm before July. Around here, about March 2nd is approximately the date the first swarm will issue. Colonies swarming then have always given us a large late flow through May and June.

We did not understand it until we began requeening each fall, but since then it has become very simple to us. The fact is this, **"A small colony headed by a young queen, will store a surplus of honey, a large colony headed even by a very prolific older queen say ten months or more of age will only give a small crop of honey."**

J. J. Wilder in his book "Southern Beekeeping" says, "The man who is increasing his colonies, will get large crops of honey, but when no further increase is being made, the average production will decrease." This is the most natural thing in the world because in making increase and dividing colonies in February and March, requeening with young queens or cells and repeating that again as soon as the colony strength becomes sufficient, you are bound to get these results.

What I say may not hold true in the North, but it certainly will all over "Dixie Land" and I invite anyone to try it out for himself.

I am willing to pay for the experiment if it does not prove to be true.

Use queens that have put in less than ten weeks of laying at the time of honeyflow.

One such queen is worth $5.00 compared to 25 cents for a queen that has twelve months or more behind her at the head of the colony. Remember, that when large prolific colonies are the aim, the old queen in our experience will hold her own. It has been our experience that even when the young queen is introduced in early spring in a large colony of bees, the colony strength does not seem to step up at once but on the opposite, the colony remains about the same for several months. An actual decrease may occur. The colony shows little tendency to swarm and will not swarm if clean fresh combs are added to the brood nest each week but, my, the honey they do pile up! All from 150 to 250 pounds right in the middle of an apiary that does not average forty pounds around.

Remember, for honey production, use a queen with less than ten weeks of laying behind her at the time of the honeyflow. A small colony headed by a young queen will store surplus while a large colony, headed by a prolific old queen, will give only a small crop of honey.

How Shall We Finance The American Honey Institute?

By H. F. Wilson,
Chairman Finance Committee,
American Honey Institute.

It is not the writer's purpose to make this an appeal for funds, but to put the matter of the American Honey Institute before the beekeepers to see if there is not some way to bring forth a plan that will make it unnecessary for the officers to be sending out frequent appeals in behalf of the Institute.

THIS is an important question, and some very definite plan should be worked out that will meet the approval of the beekeepers. The question is frequently asked, "Can't the Institute get along without appeals for finances being made every month?" The answer is that it might, if the Institute workers could wait for their salaries. It is almost with fear and trembling that the members of the Finance Committee start out to solicit funds, because we appreciate that possibly those beekeepers who have already given will feel that there is something wrong with the management. The truth of the matter is that too few beekeepers know of the Institute and its work. Also, there are too many beekeepers who believe in the Institute, or at least say they do, who are not willing to support it, even to the extent of a single dollar per year.

The Institute has made every effort to give publicity to its activities and to keep the beekeepers informed as to what is being done. A number of different plans have been tried for establishing a definite, regular financial method of maintaining the Institute. Last year, we hoped that by making up a quota for every state, it would not be necessary continually to appeal to beekeepers for help. However, because of the economic conditions and the drouth over a large part of our country during the past two years, many of the beekeepers who ordinarily helped are unable to do so, and those who can must keep the Institute going if it is to continue.

I wonder how many of our people appreciate that at no time is there more than enough money in the treasury to pay the salaries of Mrs. Jensen and Miss Cranston for a month and a half in advance?

The officers of the Institute feel it their duty to make every possible effort to keep the Institute going, even should they receive individual criticism. If we were to drop our appeals for two or three months, I am sure the Institute would be in such financial distress that it could not keep going. Funds from different parts of the United States come at different times, and the drives must be made at such times as are necessary to reach these different sections. I am sure the Institute officers would be glad indeed if they never had to make an appeal for help, or if the appeal had to be made only once each year. **Please, someone, give us a good plan that is workable which will solve our difficulties.**

I think I can suggest a plan that would be quite satisfactory if it were possible to find enough beekeepers who would be willing to pledge their definite support, **and fulfill the pledge.** I am sure there will be at least 10,000 beekeepers who will read this article, but how many will immediately drop the Institute a postal card, saying they believe in the Institute, and will guarantee $1.00 per year for the next five years?

If every member of a state, county or local organization who reads this article would immediately drop us such a card, I am sure we would have an amount equal to more than the present working budget of the Institute. Perhaps 100 persons have spent considerable time working for the Institute and soliciting funds. Thousands of beekeepers benefit each day from this work, and many more will benefit in the future if the work is continued. Large beekeepers and honey bottlers throughout the United States agree that the Institute is doing a fine piece of work and that they believe in it. But what are most of these people doing actually to support and insure the maintenance of the Institute's publicity campaign?

A few beekeepers are able to visit the Institute. The Institute does not have funds to send its representatives out over the United States to give demonstrations, and show what the Institute is doing. If you folks could only see what is being done, I am positive you would not hesitate a single minute in signing up on the five year plan.

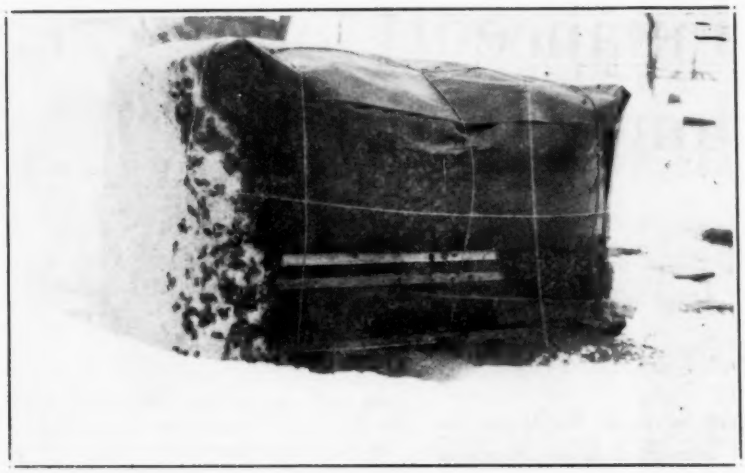
I wonder how many of you know that the world's largest newspaper, the "Chicago Tribune," is continuously printing articles on the home page concerning honey and giving recipes? Recently there came to my desk a little mimeographed booklet containing twenty-seven honey recipes. This booklet was prepared by Mary Meade, cooking editor of the "Chicago Tribune," and sells at 5 cents the copy. The title of this little booklet is, "Say It With Honey.". It is carrying the story of honey to hundreds of thousands of readers, and the most important fact concerning this booklet and its story is that it has all developed as a result of the work of the Institute; publicity with the personal touch of the editor cannot be bought. Publicity brought forth through this one paper alone is equal to a hundred thousand dollar campaign put on by any individual firm.

This morning there came to my desk a letter addressed to the American Honey Institute and containing 9 cents in stamps, which reads as follows, "American Honey Institute, Madison, Wis., Gentlemen: I would appreciate it very much if you would send me recipes for using honey. I have been told you have such a pamphlet. Please send to me at the following address. Mrs. ————, California."

I wonder how many of our readers will appreciate just what this means? A hundred such examples occur each year. Here is a new customer for honey. Someone has created an interest, and this lady is willing to write and send 9 cents to get some reliable information on the use of honey.

This year the honey crop is short. Prices for honey have advanced, and those who have any crop at all prob-

(Continued on page 457)



The tar paper case with packing material between the paper and the hives. Two colonies in this case. Some are for one; some for more. A good method.

Just HOW Shall We Winter?

By G. H. Cale,

Illinois

SUCH a trite subject that I hesitate to approach it and yet the question is still an active one. Just **how** shall we winter?

Some answer by letting the bees do their own wintering and it is often surprising how well they can do the job. In fact they succeed so well it makes us wonder whether the bees themselves are not better able to answer the question than their owners.

I suppose, like everything else in beekeeping, the application of management centers around the knowledge of what the bees do during the winter period. Readers will remember the series of articles by C. L. Corkins, beginning in October, 1932. In November the title was, "In Winter Bees Really Eat More When Warm and Less When Cold." That seems to be pretty well borne out in practice.

During the last three years, with mild winters (almost a tropical winter last year), the consumption of stores was considerably larger than in previous colder winters. Since we keep weight records in fall and spring we cannot dodge the fact.

By every test made in Wyoming, low honey consumption came in cold weather. When the temperature rose, the store consumption increased so it is necessary to conclude that **warm weather in winter brings about activity and wears out the bees.**

Another startling thing in the Wyoming experiment, different from previously accepted ideas, is that the cluster temperature of the bees remains almost constant regardless of changes in outdoor temperatures. We used to think that the bee increased the temperatures in the cluster as outside cold became greater.

Herman Rauchfuss, of Colorado, summarizes it thus: "Bees do not freeze to death in winter, they starve." It is doubtful if any colony actually freezes to death **with honey in reach of the cluster**. Cold brings quiet to the cluster; warmth brings activity.

In wintering, it seems then that the important thing is to fix conditions so that the bees can reach their honey even in the coldest weather.

Since it is difficult for bees to move to stores at zero or sub-zero temper-

Mice guards to prevent comb damage in winter. Loss from this cause is altogether too frequent.

Colonies packed in pairs.

atures which last for prolonged periods, beekeepers within the range of such temperatures may perhaps be ahead by wintering in cellars.

It is surprising to note, however, that in the North—in the Dakotas, in Saskatchewan, in Manitoba and British Columbia— reports come of bees wintering successfully one year with another outdoors with a middle or top entrance, and thoroughly packed in a sheltered place. I presume the chief advantage is that the beekeeper does not have to be on hand all the time to care for conditions as he would in cellar wintering and, therefore, he is allowed freedom to do as he chooses. This is a great advantage and one of the attractions of beekeeping.

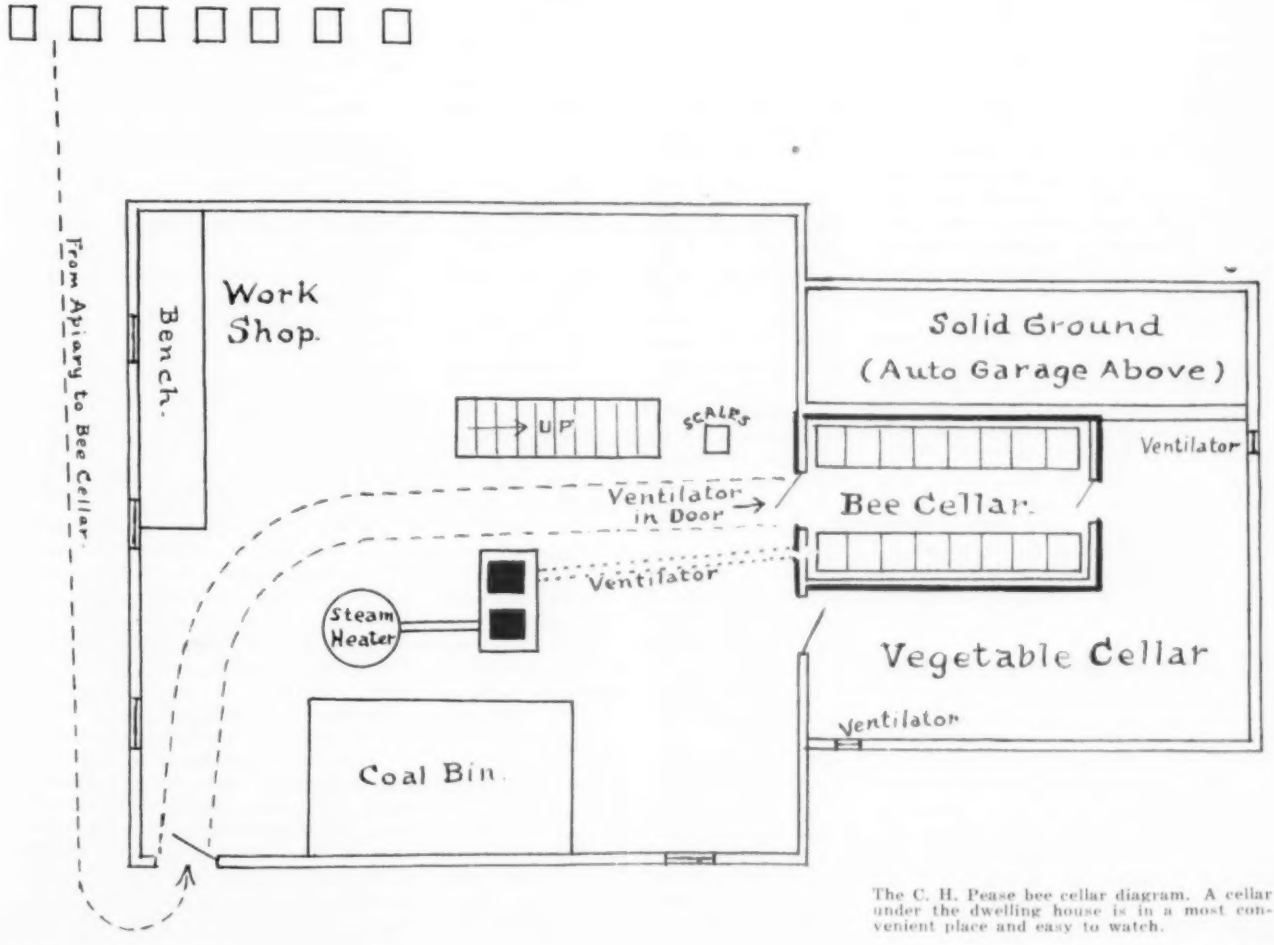
A good cellar must control conditions so that the temperature remains at the point where the bees are the quietest and must be kept there through the winter period, either by attention or by automatic control.

I think the most interesting cellar I ever saw is that of the late E. L. Hofmann, of Janesville, Minnesota, a cellar which holds several hundred colonies of bees with thermostat regulators so that the temperature and air condition are under control at all times. The cellar is provided with a big air intake, running underground and coming out at a distance. A series of ventilators extend up through a top cover of leaves on chicken wire to a depth satisfactory to allow thorough ventilation and yet retain a constant temperature below. A thermostat regulator at each ventilator takes care of the cellar. There is a peak roof over the top to give access at any time to the ventilators, and to keep the cellar packing cover dry.

We show here a picture of a cellar constructed by C. H. Pease of New Cannaan, Connecticut, which is good. In Connecticut the usual practice is to winter outdoors with protection of some kind but Mr. Pease has found that he can secure better results in a cellar even in that latitude. You have read his article in the September number, this year, page 404 under the title "Not One Winter Loss in Twelve Years."

In the middle belt of Ohio, Indiana, Illinois and Iowa, or further south, outdoor wintering is the general practice but the methods used vary considerably. Most beekeepers have given up the idea of a heavy packing case and have adopted some simpler method like the Iowa tar paper case shown in the picture. This is generally used all through Iowa, Nebraska, Kansas and northern Missouri and is being adopted elsewhere as a cheap way of winter packing where winter packing is needed.

In using it, the bees may be grouped in two's, three's or four's or packed singly, depending on the fancy of the beekeeper. Where bees are kept in a permanent grouping arrangement through the summer, it is easy to use



The C. H. Pease bee cellar diagram. A cellar under the dwelling house is in a most convenient place and easy to watch.

the same grouping arrangement in winter. Where the bees have been maintained in rows on single stands it is difficult to group them for winter packing.

In the more southern latitude of Iowa, Illinois and Missouri, it is generally conceived that no winter packing is necessary. Windbreaks, sheltered spots, perhaps a little top packing and a reduced entrance guard for mice, are all that is necessary.

Personally, I place great stress on a sheltered place where the warmth of the winter sun is enough to keep the bees comfortable and they can shift cluster whenever they wish to do so. A few days of snappy cold does not make much difference to a colony so located, even in a week or two of weather severe enough to keep the bees compact, they are able to move in such sheltered spots on favorable days and the cluster will surround a new supply of food. That is all that is necessary.

Bees so located need only good management, in the fall of the year to make wintering about as perfect as one could wish. I think more winter losses are caused by poor management in the fall than by actual lack of protection in these southern latitudes.

The old advice is still good—plenty of young bees from a young vigorous queen in the late fall, an abundance of good usable stores, plus the protection just described will bring satisfactory wintering.

Small, weak, or indifferent colonies, headed by poor queens, may not pass the more severe winters without loss. All of these duds and weaklings may be united or gotten out of the way. Read Mr. Pering's article in this issue on the advisability of being a "royal executioner." The modern package makes it easy to repair the loss the coming spring. Also it is not difficult to make increase enough from the bees on hand to bring back the numbers with better colonies than the ones removed in the fall period.

Whatever way of wintering you use, remember that phrase—**"Bees do not die in winter from cold, they starve to death."** Make it possible for them to reach their stores at all times and, with good management in the fall, the wintering problem is solved.

New Institute Reprint

Remember the item in August on page 373 "Bakers Helper to the Front Again" announcing an artcle by John H. Griffith on the use of honey in baked goods? It was a splendid article, four pages. It has been reprinted by American Honey Institute and is now available. Write to American Honey Institute, Madison, Wisconsin for sample and prices.

I Ask You, "What Is a Beekeeper to Do?"

Here is a clipping from the Tracy, Minnesota, Headlight Herald of September 14th with the title "Council Taboos Bees in Corporate Limits."

Briefly the clipping reports that the City Council has published an ordinance declaring bees a public nuisance and that violations are subject to a fine of $100. and costs. No person shall keep any bees in the limits of the municipality on property owned by him within 300 feet of the property of any other owner nor shall any person keep or have more than five hives of bees in one place.

Bees kept contrary to this ordinance are declared a nuisance. Any person, firm or corporation violating the ordinance shall be punished by a fine not to exceed $100. and costs or imprisonment for ninety days. The ordinance went into effect June 8, 1934.

Now I ask you, what is a beekeeper to do? First, we have a drouth to contend with that has never been equalled, using every scheme known to get enough stores to winter the bees successfully and then have an ordinance like this to abide by. That takes the heart out of the best of them. Fred H. Nelson,
Minnesota.

[Get the law book by Campbell "Law of the Honeybee." You will find plenty of precedents to show that the Council will have a mighty hard job making this stick if you want to contest it.—Ed.]

What About Drouth?

According to the American Institute of Food Distribution, only 20 per cent of the nation's total farms were in drouth areas in 1934 and farm population there represents only about 17 per cent of the total farm population.

On the other hand 83 per cent of the nation's farm families will enjoy greater income because of the drouth. The total farm income for 1934 is 29.3 per cent greater than the income of last year and 60.4 per cent greater than the income for 1932.

The Chicago Daily Tribune of August 19th says, "Business analysts are now estimating the aggregate farm income to be substantially above last year and they warn that business confidence has been unduly disturbed . . . "

Many beekeepers have been in the drouth area and it is very hard to be optimistic when failure has been the lot of the season. After all, the value of any location is to be measured by the average over a ten-year period rather than high or low spots. The beekeeper who is in a location where a hundred pound average is usual, one year with another over that length of time, is in a good commercial location and should be able to make a living from bees equal to that of any other farm occupation.

Control Com. Recommends Price Schedule

Just as we go to press, a telegram from J. M. Robinson, Managing Director of the Bee Shippers' Federation, announces recommended prices of package bees, nuclei and queens for the spring of 1934. We give the telegram as received:

"Please announce in your current issue that the Control Committee of the Bee Shippers' Federation recommends to the Secretary of Agriculture that the schedule of prices for package bees, nuclei and queens for the spring of 1935 remain as they were for 1934. Prices beginning June first 1935 have not as yet been established or recommended."

J. M. Robinson,
Managing Director.

Prize Winning Recipes

Missouri State Fair, 1934

Honey Candy—Mrs. Roy Hulse, Oak Grove, 1st.

3 cups granulated sugar
1 cup honey
1 cup cream
½ cup butter

Cook until mixture forms a soft ball in water. Remove from fire and add 2 cups black walnuts. Beat. Makes three pounds.

Honey Fruit Pie—Mable Dunlap, Osceola, 1st.

2 tablespoons tapioca
2½ cups honey
1½ cups water
1 small can pineapple
1 egg
1 small bottle cherries
3 drops lemon extract

A Better Shoe Polish

Your correspondent in September who recommends pure beeswax as a shoe dressing, goes only half way with pure wax. Had he melted the wax with neat's-foot oil, to make a mixture about as soft as lard when cold, he would have had a leather dressing hard to beat.

It softens hard leather and makes it waterproof. The oil sinks into the leather, if the leather is clean, leaving a film of wax on the surface which will take a light polish by rubbing vigorously with a soft cloth. Lampblack may be added for use on black leather. I give this from ample experience. C. D. Cheney,
New Jersey.

A Marketing Questionnaire

By Frank A. Haring,
New York.

It will come as good news to the honey industry to learn that distributors in the large eastern markets are at last bestirring themselves, and re-armed with modern merchandising weapons, promise a new honey drive that should carry sales to a new height, and possibly create a consumer honey consciousness that will eventually bring honey to its deserved position among foods.

A large share of credit for this new interest in honey goes to the recently completed consumer survey, sponsored by the John G. Paton Company and directed by Prof. Dale Houghton of the School of Commerce of New York University, the eighty students in Prof. Houghton's advertising classes doing the actual consumer contacting.

In this survey approximately a thousand New York City housewives were interviewed. The procedure was first to leave a questionnaire with each housewife, asking her to fill it out. With the next call, a sample of honey was given to each housewife who had shown her willingness to cooperate by properly filling out the questionnaire. A third call determined the reactions of the housewife to the sample, having given her an opportunity to serve it at a meal. The compilation of answers obtained from these three calls conclusively established certain consumer likes and dislikes and while probably the percentages would not remain constant for all parts of the country, they are authentic for the great metropolitan markets of the East.

Responding to the question, "Do you use strained honey?" 63 per cent answered, "seldom;" 25 per cent, "regularly;" 12 per cent, "never," making clear at the outset that the honey market was far from being saturated. Following this first question with, "If not, why not?" the answers and percentage of votes were: "do not care for it" (no particular reason), 14 per cent; "too sweet," 3 per cent; "too expensive," 3 per cent. Among other reasons there was listed: "prefer comb honey;" "fear of adulteration;" "preference for maple syrup;" and "never tried honey."

In a vote on brand preference 22 per cent named a particular brand while 67 per cent had no preference. On container sizes 72 per cent showed a choice lay between the 20c and 27c quantities. Ten cent sizes also received a large vote, 20 per cent. Sizes over 50c could poll only 10 per cent. Glass was by far the most popular container, the vote showing 94 per cent favoring glass, and giving such reasons as: "more sanitary," "looks better," "re-use," "visibility," "easier to handle," "more suited to the table," and "seems purer."

Probably a good many honey packers never have really known just what their product was being used for. The question "Why do you use honey?" brought many interesting reasons to light. Among the most important were: "for medical purposes;" "for baking and cooking;" "as a pancake syrup;" "as jelly on bread or crackers;" "as a substitute for sugar;" "because of its appealing taste." Less important reasons included "with milk and crackers;" "helps children drink milk;" "on cereals;" "in place of butter;" "with lemon juice for reducing;" "makes good candy;" "used as a beauty treatment;" "used in coffee."

Whether the trade fully appreciates the fact or not, the outstanding reason for buying honey still lies in its medical value. Seventy-five per cent of all housewives answering the question "Why do you use honey?" among other reasons given, agreed on the fact that it is healthful, and buy principally for this reason. Honey, it was found is being used for asthma, nerves, diabetics, digestion, the heart, as a gentle laxative, and of course, for coughs, colds and sore throat. The significant feature is that this medical use has been given very little impetus through advertising, but is simply carrying on by virtue of being passed down from generation to generation chiefly by word of mouth.

An interesting feature of the questionnaire was a list of the new reasons for using honey, and an invitation for the housewife to indicate which uses might influence her to use more honey. The following reasons, in the order of their importance, controlled at least 50 per cent of the total vote: (1) Honey wards off colds, sore throats and other sickness. (2) Honey is a mild, gentle laxative for adults as well as for children. (3) Honey is a safe sweet for children. (4) Honey builds healthy bodies. (5) Honey produces restorative sleep when added to warm milk. (6) Honey is not constipating as is cane or beet sugar. (7) An easy way to get children to drink milk. (8) Honey is an instant energy food. Here again is shown the potentialities of a health appeal.

Under the heading, "Remarks," the questionnaire invited the housewife to give her general reaction to honey. Some of the most suggestive were: "Can get 5 pounds of sugar for the price of a jar of honey." "Makes cod liver oil palatable." "Pitcher top on jar would be helpful." "Would like more recipes." "Dislike strong flavored honey." "Dislike honey too sweet."

The general substance of these remarks was repeated over and over. Outstanding was the fact that flavor preferences existed in many instances and is an important factor to be reckoned with. In a second list of "reactions" registered after tasting the sample, there repeated again and again, "Nice color, good flavor, not too sweet," adding more weight to the fact that there is a definite quality preference.

Water for Bees

In our September number, in "All Around the Bee Yard," in the first item the question is asked, "What is the best way to give bees water permanently so they will never bother?"

Jay S. Brown, of Florida, writes: "Why not try a pint jar with a regular feeding bottom? I did this to try keeping bees from being drowned and reasoned that it would save many a trip for water, since it would be handy at all times.

"It worked. On lifting up the jar now and then, I find quite a number of bees at all times after the water. This gives them more time for other duties. This method should be a boon in dry sections especially. Each colony could be provided with water at small expense."

It looks like a large outlay for equipment, friend Brown. Why not have a large watering tank right in the yard? Something with a reservoir to furnish it with fresh water at each visit and floats for the bees?

The point we were trying to make is that, regardless of the supply of water that might be furnished by the beekeeper, the bees this dry season would start on stock tanks, pitcher pumps, etc. How can this be avoided?

It looks as though whatever supply of water is used for a large apiary of 80 to 100 colonies would have to be large and kept constantly supplied to prevent this kind of trouble.

It Pays to be a Royal Executioner, Even in Florida

By Alfred H. Pering,
Florida

WHEN I kept bees in the North and suffered severe winter losses, I would dream of what a bee paradise one would be in if he could own and operate an apiary in the Sunny South. Little did I think then that sickness and ill health would drive me to Florida. I lived in hopes that some practical method of bee management would be developed by which winter losses could be reduced to a minimum. I always took special interest in the discussion of the proposal to find a profitable way to kill bees in late summer and replace them from the South in early spring. My interest in the plan grew until I began to try a way I was beginning to find to be possible, at least by reducing my numbers of weak colonies and salvaging the honey so not to leave them to be lost in winter.

About mid-summer or early fall I began to unite the weak colonies with strong ones or perhaps three or more weak ones all into one colony. There was so much outcry and aversion to killing the bees, that I eased my conscience by killing the queen and uniting the bees and brood to such other colonies as I thought would strengthen them so that the very strong colonies resulting would be able to gather a nice crop of honey whenever we should have a fall flow.

Much to my satisfaction, I found this to be a profitable practice especially when my apiary grew by natural swarming to such numbers that I wished no further increase. I would take more care of the undesirable swarms and save the young queens and put the weak colonies to good use.

In doing the "Royal execution act" I always tried to select the less desirable queens and save the queens from natural afterswarms. I found it profitable too to rob a colony that I wished to destroy of all their brood and most of their honey and give them super frames of foundation to draw. About every five days I would remove these super frames and allow the larvae to die and replace with more super frames. In that way I built up a nice lot of extracting combs for chunk comb honey as no brood was allowed to become mature in them.

About the time the colonies began to weaken for want of emerging bees, I would kill the queen and unite the old bees with a colony needing them. These old bees became almost immediately field bees and if I had even a fair fall flow, this was profitable.

I remember in one instance I had given ten combs of brood to a rather medium colony and when the brood emerged, the old combs were filled with honey. I extracted right in the middle of a good aster and goldenrod flow and that colony filled those ten Langstroth combs with new honey and sealed a good portion of it in five days.

Before leaving Indiana, I tried a few packages from the South, before the prices were near as low as they are now and it was before the southern shippers began to include an untested queen. I had to purchase the queens separately and at an additional price. This was in addition to the transportation charge for the long haul and made the cost so high that I would seldom derive much profit the first year.

The young queens and the consequent pure Italian breed was a worthwhile item, however, and, had I remained in the North, perhaps I would have developed some system of management to make the killing of bees in the fall and replacing them in the spring more profitable.

Down here, most colonies of bees are fairly strong at the time the late fall honeyflow eases up, to a point where storing honey in the supers practically ceases. The brood nest then begins to fill up and to crowd the queen out of her laying room. I cannot say that the queen really gets honey-bound but the hives will have an abundance of honey; and there needs to be an abundance of honey through the winter months because the bees fly every day in Florida and they find a little honey and plenty of pollen to bring in. This tends to keep the queen to laying some all winter.

I should have said "all winter" under my breath for I never feel we have any winter here. These Florida crackers call it "winter." So during a part of December and most of January the bees wear themselves down in their frantic efforts to get something from our gorgeous poinsettias, Rurkisk-cap and other winter season Florida flowers. The queen keeps on laying and in spite of the efforts of the field bees to keep the young brood supplied with food, the nurses have to draw on the reserves and the colony may be weakened in the spring.

Continuing to be interested, however, in reference to the destruction of bees in the fall and securing of packages in the spring, I began to wonder if that practice were possible here.

One day in early December having occasion to rearrange the foundations of a few of my colonies in Modified Dadant hives, I found them so heavy I thought, "Well, if I had all the honey those colones have, transferred into honey containers and ready for market, I would have a honey crop indeed and I would not have to wait for another honeyflow."

The more I thought about it, the less I thought it a fool idea so last fall I selected a couple of medium colonies and, suspecting the queens were about ready to play out, I dequeened them and after all their brood was sealed, I united them with two other colonies and just as soon as their brood had time to emerge from the combs, I extracted the honey, stored the empty combs ready for package bees in the spring.

I failed to get packages as early as I wished. Even the package shippers nearest me did not want to ship as early as I could have made good use of them. When the packages did come, the flow from eucalyptus and yellow jasmine, the earliest wild flowers, and from blackberries, dewberries, much of the dandelion, and even some of the orange bloom was over. In spite of all that, the experiment proved to be profitable.

The low cost of the bees, the pure Italian stock, the short haul, the low transportation charges, the crop they stored, added to that taken from the old colonies, all together, proved that the idea wasn't so preposterous after all and I pronounce the experiment quite a success.

A comparison of results secured from hiving package bees on old combs and from hiving on full sheets of foundation may be of interest and I will try to tell about it later.

BEES — On Deposit

A Timely Suggestion

By Robert L. Griffith,
New York.

An earlier display by E. A. Meincke in a Chicago bank window.

A BANK is an unusual place to hive bees, to say the least. Consequently, as a member of the consuming public and not as a beekeeper, I was vastly interested by a bank window full of bees — live bees swarming around a hive and seemingly filling the combs with honey. As said above, the writer is not versed in the art of beekeeping, but, excusing the lack of trade phraseology, I can speak truthfully from an unbiased viewpoint as to the interest created in the mind of the person passing by on the sidewalk.

Being human, I was first attracted by the crowd in front of the window, and continuing to follow those natural impulses I edged in closer. The display was interesting — the crowds were proof of that. A cross section of a hive was in the window. the hive was filled with the familiar boxes, and the bees literally formed a living curtain over the combs. Now and then the bees would move and one could see that the combs were very nearly filled. In addition to the live bees and their housing, the usual implements and paraphernalia, such as head guards, etc., were also grouped in the window. It was, of course, readily observable that the bees were in the window of The Morris Plan Company of Syracuse, and a prominent sign told me that they had been furnished by E. W. Emmons of Nedrow, New York, proprietor of the Hillside Apiary.

Bank windows are quite frequently empty. Empty space is wasted space. It is a difficult problem for bankers to devise new and attention-drawing methods of utilizing window space, but they realize the advantages of and the need of advertising. They must tell the services the bank has to offer, and they must preach the lesson of thrift.

It should be an easy matter for a beekeeper to outline his display and sell the banker on the idea that such an exhibit is to their mutual advantage. The size of the city or the size of the bank should make no difference. The only requisite is the window. Given this, leave it to the bees to attract the people. People are fascinated by bees, but they appreciate that pane of plate glass between them. Attracting the attention of the consuming public to anything, merchandise or service, that is for sale is one of the biggest tasks confronting the distributor today.

As early as the primary grades, I can remember that bees were used as the classic example of thrift. They are energetic, they work hard. They deposit their little savings bit by bit, but trip after trip is made, and lo! Look at the quantity that is stored away in a relatively short time. That is the lesson that the banks are trying to preach—the principle of regular deposits, no matter what the size of each deposit may be. And you don't need signs to bring this out. The story is well known by most Americans; they have simply forgotten it. The bees right before them, in the flesh, recall it to their mind.

But of what value is this to the beekeeper, he who makes his livelihood, or part of it, by the sale of honey? Honey, to me, is a peculiar thing. I can go along and forget that such a commodity exists unless something brings it to mind. Thus it was with the window display. Immediately I thought of honey, and no sooner had I thought of it than I had developed a taste for some. I wanted some. The bees had accomplished their purpose; they had made me think of their product.

Such an advertisement can have a two-fold purpose, both of value to the beekeeper. Firstly, it brings before the public eye the trade name of the honey. It brings it before them in an interesting manner and therefore they are not likely to forget it too quickly. The next time they buy honey that name will come to them and they will ask for it. All this is splendid advertising, and at **no cost** to you other than a few hours of labor.

If you can arrange to have the honey on sale at a nearby location, you have a second advantage, one that is directly accountable in dollars and cents. The people will want to buy while their mouths are still watering. They will want to take some home that very night. The bank would not care to have you place the honey on sale on their property. It would be a precedent that they would not care to establish. But if there is a grocery store very close by, a fruit stand, or some other suitable place, it might be worth your while to investigate. You would, naturally, call attention to this fact in your card advertising in the window itself, as well as the names of

a few places where that brand of honey could be purchased locally.

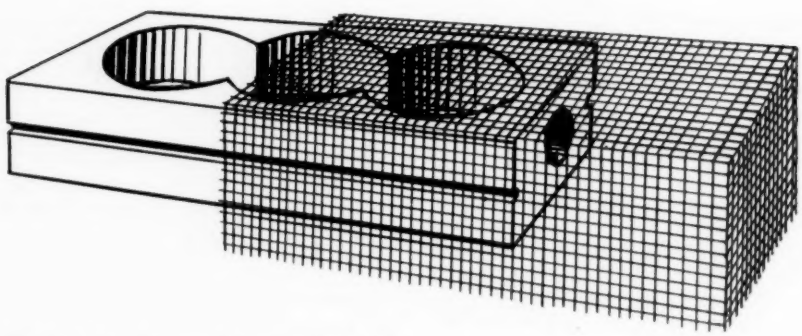
It is my belief that such an exhibit would readily sell itself to almost any banker. To you it is advertising of a direct nature. Do a little hustling. Make people want honey, and tell them whose honey they want.

A Safe Method of Introducing Queens

By George H. Rea,

Extension Assistant Professor of Apiculture,

Ithaca, New York.



This is about the way the cages look. The candy hole in this diagram is empty, and should not be. The comb is missing too but it will help you get the idea.

THE safe introduction of queens is always a matter of considerable concern. This is especially true of the amateur beekeeper. Even extensive beekeepers often lose many queens by failure to introduce them safely. Since we now have methods of requeening colonies without dequeening them, commercial honey producers are more interested in wholesale requeening than in the queen cage or individual method. However, commercial beekeepers as well as amateurs need to know how to introduce an individual queen safely by using an introducing cage. No doubt the amateur will always use this method more than any other.*

All too many queens are lost by attempting to introduce them by the mailing cage method. If they are not killed by the bees as soon as liberated from the cage they may be so badly injured by balling that the bees set about very soon to supersede them. Probably this is mostly due to the fact that the queen has had little chance to acquire the colony odor and no chance to lay eggs and be accepted by the bees, as the queen mother, until she is met by a hostile group of bees when she emerges from the mailing cage.

This is the point where the push-in-the-comb cage has had a large measure of success. In fact if this cage is properly used, safe introduction is practically assured. One trouble with the push-in cage is that a comb must be removed from the hive and carried into a building where the new queen is liberated from the mailing cage and captured under the push-in cage. After this the comb with the imprisoned queen is returned to the hive. This was found to entail extra time and labor and it has been found more expedient to use the cage as illustrated by the drawing.

By this method the old queen is found and killed, as formerly, and the new queen is liberated under the wire cage which is pushed over the end of the mailing cage and down into the comb. All of this may be done right out at the hive in one operation and without a trip to the honey house.

The instructions which we give out for the construction and use of this cage follow:

When a new queen is purchased she arrives in a small wooden cage. The usual instructions are to make sure that the colony is queenless and then place the cage containing the new queen in the hive so that the bees may release her.

This method is not very satisfactory. A better method is to make another cage out of door screen, about as long as the queen cage and three-eighths of an inch deeper, closed at one end and open at the other. This is known as a push-in cage. To use, find a brood comb with open cells, empty or containing eggs. Remove the perforated metal from the end of the mailing cage and place the cage on the comb in a slanting position with the open end down. Place the push-in cage over the mailing cage so as to free the queen on the empty comb under about one-half to two-thirds of the push-in cage.

Care must be taken to crowd the edges of the push-in cage down to the midrib of the comb to prevent the premature escape of the queen. It has been made deep enough for this purpose. The bees of the colony will tunnel through the candy in the opposite end of the cage and release the queen in about six or seven days. At the end of this period the colony should be checked but should not be disturbed before that time. The success of this method lies in the ability of the queen to get out of her cage on the brood comb where she may be accepted by the bees and begin to lay eggs before the hive bees have access to her.

In July, 1933, when the weather was hot and dry and conditions were bad for queen introduction, fifty-five queens were introduced by this method in the demonstration apiaries in five counties. The bees were black and had lots of fight in them. Fifty-four of these queens were successfully introduced and had the colonies full of fine Italian bees in a few weeks. This and many other similar experiences have led us to believe that the method is quite successful.

Brainless Extraction

By J. W. Braithwaite,
Manitoba.

BEEKEEPERS who started out in high gear, so to speak, by commencing business with a modern and complete equipment, missed many of the thrills and much of the excitement enjoyed by so many of us who started in a more modest way.

The extracting of honey, in a place set apart for that purpose, with a good extractor, uncapping table, steam knife, honey pump and storage tanks is more or less a routine and by no means unpleasant occupation. But lacking all these things, and with the crude substitutes of the beginner, operating in the living room of the home, one must have unfailing optimism, a good sense of humour, dogged determination and, above all else a good natured spouse (if blessed with one at all) otherwise he will falter and fail, wilt under the strain, and may even be tempted to give up altogether in disgust.

Up to the time of my first extracting, beekeeping had seemed too good to be true. Thus far everything had been plain sailing. Looking after the bees had been a pleasure, the honeyflow had been a good one and my six hives had given me a nice little surplus. I could not help wondering if there was not a catch in it somewhere; it all seemed too easy and satisfactory.

How well I remember taking off my first crop of honey, some twelve hundred pounds or so, and how proudly I carried it home and stored it to await extraction!

At length the time arrived. I borrowed an extractor from an acquaintance and, after the bairns had been put to bed at night, with my good wife as working partner, we cleared the decks for action and set to work.

We did not have a steam-heated knife, neither did we have an uncapping box or table, but uncapped the frames with a cold knife on the kitchen table which boasted a porcelain top. I did the uncapping (this being the more scientific end of the business) and my wife (shame upon me) turned the "Hurdy Gurdy" and was also allotted the job of scraping the cappings and drippings from the table into a pail from time to time.

Oh, the fun (?) we had! I live it over again as I write. I soon realized it was going to prove a much longer job than we had anticipated and that we were not going to get all our supers done that night. It was harder and more messy than I had thought possible and somehow we soon managed to get the floor thoroughly "gummed up."

We were late in starting and by about midnight had extracted only four supers of honey. We then decided that as the future was still untouched we had better call it a day, but of course my wife insisted upon washing the floor and tidying the place before we wearily retired, so it was close to 1 A. M. when we finally got through.

I don't think that I was sufficiently disgusted to express my fears to my partner, but I was feeling in my own mind that my early fears were fully justified. There **was** a catch in this business all right, and it lay in the extracting end of the game.

Talking over our trials with a beekeeping neighbor the next day, he offered to lend me his steam knife and kettle, telling me that this weapon would cut the labor in two. His offer was thankfully accepted and after supper that evening we rolled up our sleeves, girded our loins, and again tackled the proposition.

This steam knife, it should be mentioned, was a masterpiece of ingenuity. It was made from an ordinary uncapping knife. The local tinsmith had soldered a jacket on one side of the blade, with a projecting spout near the handle for the attachment of the hose. There was no return pipe, but an outlet was provided by means of a small hole at the point of the jacket, by which the excess steam could escape. The kettle was an ordinary one-gallon oil can, and the tube to the knife fitted on the spout.

The idea was a good one, and the hole in the end of the blade fulfilled its function perfectly. The steam escaped all right, so did quite a lot of water, and as a contrivance it was surely the world's champion muss maker. We certainly made a little better time over the uncapping, and did a better job of it, but the steam and water came out of the end of that pesky knife just like a miniature fountain. My long suffering partner periodically swabbed the table according to plan, but in between whiles sundry stray floods of honey, wax and water would find their way to the floor and, believe me, when tramped around a little, they made a wonderful combination.

Long before we reached the witching hour we were both stepping high. Every movement made was attended with a sound like a suction pump or a long drawn out movie kiss. I was more satisfied than ever that beekeeping was not all honey. Indeed shoes and floor bore eloquent and sticky testimony to the qualities of wax and water. On concluding this night the floor had not only to be washed, but required scraping also.

Next day we had a brain wave. I say "we" because I do not know which of us was directly responsible for the idea. Being of a generous nature however, I am quite willing to give all the credit to my patient partner. The idea was that if we spread papers over the floor before we commenced to extract, all we would be required to do when we got through would be to roll up the papers, the muss would be avoided, the floor would not require washing, and there you are.

Now, I ask you, could anything have looked simpler or more satisfactory than that? We decided that this extracting business was not so bad after all. All that was needed was a little experience coupled with a few bright ideas and everything would be all right. Once again heat up the boiler and let us get going.

With light hearts we spread our newspapers over the floor and set to work upon the remaining supers. When we got them completed, instead of having to wash the floor, we would sit down and take it easy for half an hour, partake of some cheese and biscuits or something like that, over which we would review our accomplishments and plan what to do with the money we were going to get for the honey. We would then retire at peace with the world and with feelings of virtue and satisfaction at the knowledge of work well done. In this vein we went to work with optimism renewed.

For a while things went merrily enough, but soon our troubles began. The papers around the table and extractor commenced to get sticky. Soon they were really sticky, and before we knew it we were walking around with sheets of newspapers sticking to the soles of our shoes. We had to pick our feet up like a couple of men trudging across a muddy field, or like soldiers in Flanders. Now the papers stuck to the floor, curled up and clung lovingly to our legs and clothing, stuck to everything until we hardly knew whether to laugh or to weep, and had to suspend opera-

tions entirely while we freed ourselves from our weird entanglements and cleared them away.

The situation was ludicrous in the extreme, and the writer of the song about "when father papered the parlor" in which he says "you never saw a family so stuck up before" certainly had never extracted honey in the kitchen with newspapers on the floor, and a newfangled high pressure fountain as a steam knife.

Finally we completed the job and cleaned up the mess, washed the floor for the third night in succession, and though tired, had a good laugh over the whole performance.

We duly sold our honey at a fair price, and earmarked the proceeds for the purchase of more bees and some modern extracting equipment for the following season. We later acquired a honey house and no longer needed to do our extracting in the home and in the wee sma' hours. From that time on we have gone steadily forward and found that after all there really is no catch to beekeeping.

Taking everything into consideration, the times, conditions generally, and the labor and the pleasure involved, beekeeping and honey production represent just as fine a hobby, or as satisfactory a pursuit as one can very well wish for, but neither my wife nor I will easily forget our first introduction to the honey extractor.

THE PROFIT in Honey Production

By E. S. Miller,
Indiana.

To encourage the belief that there is a large profit in the production of honey does not seem to me to be fair to the beginner. Every experienced producer who has given serious thought to the problem and who has maintained an accurate system of accounting knows that is true only in exceptional cases. In order to make a profit under conditions prevailing in an average season and at prices received during the last four years, one must be in a favorable locality where sweet clover or other dependable sources of nectar are available and, secondly, the producer must be skilled in management. Taking one year with another, few beekeepers can afford to produce extracted honey for less than 8 cents a pound or comb honey for less than $3.00 a case, which is more than present prices.

In the figures given in Mr. Kruse's article in the August number of A-B-J, his average production over a period of eleven years is 79 sections per colony and his gross receipts $15.54. This figures approximately 20 cents per section. We all know that honey has been selling at about half that price wholesale. Whatever is received above wholesale price should be credited to marketing and not to production. Furthermore, the average commercial producer in an average year secures less than half that number of salable sections of comb honey. Mr. Kruse's production and profits, as he states them, are exceptional. Probably not one beekeeper in a thousand can equal them over a period of years, though it may be accomplished in some localities in years that are favorable. To imply that anyone can make a net profit of $9.00 to $11.00 per colony average is misleading and is likely to cause disappointment and financial loss to the inexperienced and to those who are tempted to invest largely without due consideration of the problem.

In order to figure profits in any business, one should consider **all** of the costs. To count as profits gross receipts only, as many do, or even gross receipts minus the cash outlay, is not the correct way to determine profits. It would not be accepted as correct in any system of accounting in any other industry. In addition to cash outlay in computing costs, we must not omit labor, interest and depreciation. Labor should include the value of the services of the beekeeper, himself, as well as that of others. Interest should be at prevailing rates on the cash value of the equipment. Depreciation should be a percentage of the value of the equipment based on the probable number of years it will last. Use of truck and other auxiliary equipment must be considered, and this means more than cost of gasoline and oil. Interest and depreciation are the biggest items in maintaining a car.

The question may be asked, "Why do those already established continue to produce honey if there is little or no profit?" The answer is, that like the farmer who in past years produced wheat at a cost of 75 cents a bushel and sold it at 40 cents, the beekeeper is obliged to continue operation or lose the use of his investment.

Success in beekeeping as in any other industry depends upon a suitable location and on a thorough knowledge of business methods both in production and marketing. Before investing in a large way the beginner should start with only a few colonies, learn as he goes and determine by actual experience his likelihood of success.

Thistles for Honey

We have the Canada thistle here in New Hampshire. Does this plant yield as long and as freely as the star thistle of California? W. S.

The star thistle of California begins to bloom about the first of July and continues until frost which is usually in October. The nectar yield is slow but continuous and the honey is of good quality, light in color and of heavy body. It usually brings a higher price than the light amber honeys common to that region.

The Canada thistle is a troublesome weed in the eastern states and the eastern provinces of Canada. Once established it is very difficult to eradicate. It is a good honey producer, however, which compensates in part for its bad qualities. The honey is of good quality, very light in color and pleasing flavor. In some localities large yields are reported from Canada thistle. F. C. P.

The Bee Escape

By Frank C. Pellett,
Field Editor.

NECESSITY is said to be the mother of invention and we need not look far to find proof of the assertion. No sooner did the beekeeper learn to provide the bees with a separate compartment for storing the surplus honey than he saw the need of some means of getting the bees out of the super when he was ready to remove it. Like other items of present day equipment, the bee escape is the result of numerous efforts to find a solution of that problem. As was the case with the excluder, the first development of the escape appears to have been the work of European bee men. The early issues of British Bee Journal in the eighteen-seventies describe numerous traps which were very crude but which were at least a start toward present day perfection.

The Ashton bee trap is described as permitting the bees to leave the hive or super without the ability to return but details of its construction are not available to this writer. Cheshire's pin trap with various modifications received much attention also. Cheshire's plan was to bore holes about the right size to permit the bees to pass. Across each hole on the outside was suspended a common pin which the bees were able to push aside and which fell back to its former position after the bee had passed. Considerable ingenuity was used in devising the proper position to insure that the pin would fall across the hole and thus prevent the return of the bees.

Walter S. Pouder, of Grossbeck, Ohio, in 1884, described an adaptation of the pin trap which he had developed in this country. He used a small wooden bar about the size of a lead pencil and through it pushed a row of pins, about seven to the inch. This was swung on a pivot so that the points of the pins rested on a slant on the entrance board. The bees were able to push under the pins and raise them far enough to permit their escape but as the pins dropped again they could not return. Others prepared a tent of mosquito netting under which were placed the supers as taken from the hives. The bees gradually left the supers and passed through a small hole in the top or clustered in the tent. When the supers were cleared they were removed from the tent and the bees released.

Dr. C. C. Miller adapted the tent to a smaller space by making a small tent to go over a pile of supers. This was made the same size as the super and was placed at the top of the pile. It was made of mosquito netting supported by two V-shaped wires with loops at the apex to hold the netting in the form of a pyramid. A small opening at top permitted the escape of the bees.

J. S. Reece, Winchester, Kentucky, was probably the first to devise an escape to be used in connection with the hive. He made two cones which were attached to a thin board the size of the hive top. These were inverted over an empty super and placed below the filled super. The bees moved down freely but only a few succeeded in finding their way back the way they had gone.

In 1890 Charles H. Dibbern, of Milan, Illinois, conceived the idea of using smaller cones turned on the side thus getting rid of the long projections of the Reece escape. The idea was further refined by John H. Larrabee with several small cones one in front of another and placed between two boards. The bees entered the first from above and after passing through the others passed out below. This was widely sold as the LaReece escape, thus combining the names of Larrabee and Reece.

It remained for E. C. Porter, of Lewistown, Illinois, to introduce a really satisfactory escape which it appears was designed by his father. This was first offered in 1891 and has continued to hold its popularity until the present day. Many thousands of them have been sold. In the center of the board is placed a small metal cavity with two thin, flat springs nearly touching each other at the opening. The bee in passing readily pushes them apart far enough to leave the super but when they regain their former position she is unable to return.

There have been improvements of the Porter escape such as the Lewis modification with two openings in opposite directions but no substantial change in the fundamental invention.

Carbolic Acid for Foulbrood

Harmon Bosch, of Michigan, asks "Why could not carbolic acid screens be used in treating American foulbrood? If carbolic acid will make bees leave the brood chamber as it drives them out of supers, why will it not drive the bees out of diseased hives and would this not be better than the old shaking method?

"The diseased colony can be placed on top of a clean hive with starters of foundation and then the carbolic screen placed above. After about five minutes a little smoke would probably drive out the bees that may remain.

"This will eliminate the spilling of fresh honey and scattering young bees as usually occurs in shaking. It would be less work and any robber bees would have little chance to cause trouble. When the colony is given the second treatment in a few days, the method should be used again."

It's a good suggestion, Mr. Bosch. Some beekeepers have tried it and report success. It certainly will eliminate the scattering of bees and honey. It s a quiet method and the acid drives the bees out so completely that there would be little danger of their taking very much honey with them. They do not stop to fill up much when acid is used. Possibly a second shaking would not be necessary. That will have to be determined. Try it out and let us know.

Frost in Wisconsin

"We had a big frost this morning, August 20th, here in Sarona, Wisconsin, and we had our first good rain Saturday. Crops are poor here this year.

"Still my bees have done fair. I took off sixty-four sections from one colony and I think many of my bees will have over a hundred pounds surplus. Not bad for section honey. Swarming has been troublesome this year. Even Modified Dadant hives did their bit."

W. J. Blume,
Wisconsin.

Plus de Miel

"Plus de miel" (More honey) is the title of a 92-page book on bees, in the French language, by Dr. Audibert and is undoubtedly likely to increase the production of honey among our European beekeepers. It has a preface by Geo. S. Demuth and supports the use of the Langstroth tenframe hive, with the Demaree method. Very simple and very practical.

What Price Negligence?

By H. A. Insinger,
Missouri.

Have you ever paid this price for similar neglect? We have, more than once and took a scolding for it.

WEATHER conditions not being very favorable, the spring examination for some hives became a protracted affair. The result was that some colonies jammed every available space under the inner cover with combs of honey.

The colony pictured happed to be one of them. Due to the fact that the bees were meanness itself, and because a fine case of robbing threatened to develop, I concluded to close up the thing and wait a day or two. But already there were so many bees on the exposed honey that literally hundreds would have been killed, had the inner cover been replaced then and there. On the other hand I cared not to scrape the frames clean, as well as the cover, and thus finish the job, for fear of making matters worse than they were. Nevertheless, that would have been the better procedure in view of subsequent happenings.

So, then, in order to prevent the wholesale smashing of bees I conceived the bright (?) idea of placing an empty super shell for a day or two. So far, so good.

However, for the next two weeks the weather was prohibitive, and, with other matters demanding my time, the noble experiment was forgotten altogether too soon. On top of this the season proved such that the bees required little attention for about two months. Well, there is hardly any need to describe my feelings when, during the supering routine, I tried to pry open this pet hive. And as for my reaction, nothing like that again! [Not until the next time!—Editor.]

This Honey-Canning Age

By C. M. Litteljohn,
Washington.

Amateur vegetable gardens, berry patches and little orchards were cultivated in the Puget Sound country and Pacific Northwest this summer as never before, as breadwinners strove to assist their families by converting new-found leisure into tending new plantings on home lots or nearby idle land.

As a result, many housewives of the section have an abundance to can this autumn, since a warmer summer than usual has given to faithful men with the hoe bounteous crops and a satisfactory harvest. Women are eating all they can, and are canning all they can't, with new emphasis placed on fruit canning with honey this year.

Impetus to canning fruit with honey is given by one of the leading fairs of the section, where many women are taught by both precept and example the art of canning with the product of the bees, for a finer family service. With so much to can this year against any possibility of winter want, new interest in fruit canning with honey is being taken.

At the Western Washington Fair cash awards were made for the best displays of such fruit canned with honey, canned or preserved fruits being grouped in displays of not less than twelve pint jars, with the appearance of the fruit, including craftsmanship, texture and symmetry in the honey jar being accorded the highest honors, or thirty points out of a possible hundred.

The taste of the fruit, mellowed in this finest of fluids for canning, scored next on the list, and this **taste**, not **sweetness**, was underscored, with a grant of twenty points. Both the color of the fruit and the size each earned fifteen per cent, while ten per cent was allowed for the syrup itself, marked on both clearness and sweetness; and for the container, judged as a vacuum, for cleanliness, tightness, and labeling.

Many kinds of tree-fruits lend themselves admirably to improved canning and preserving by means of honey, as these educational fairs of the Northwest, educational for many thousands of housewives, clearly indicated this autumn.

Cyanide for Moths

Calcium cyanide saved from the wax moth every comb in every hive where the bees died last winter, in our twenty-six below zero cold spell. I simply brushed the dead bees from the combs and bottom board and closed the entrance and then put a teaspoonful of cyanide on a piece of cardboard under the inner covers. I repeated this three weeks later, and at the end of May, when the combs were needed for increase or use in extracting supers, there wasn't a sign of wax work, egg, cocoon or tunnel in any of them. Thirteen hives (unlucky thirteen!) were protected at a cost of about twenty cents, for half a pound of calcium cyanide.

S. F. Haxton,
Pennsylvania.

Fall Honey Plants Late

Full bloom for Spanish Needle usually is before Sept. 1. This year Sept. 15 was nearer it. All fall blossoms are late and as this is being written (Sept. 17) are yielding nicely. In favored locations many light colonies likely will be full for winter and perhaps yield some surplus.

A Clustering Place for Winter

By Hy. W. Sanders,
Manitoba.

YEARS ago we used to go out in the spring to buy bees. That was before the package business had been developed to its present perfection. In those times the happiest hunting ground was in the districts around Beausejour, Manitoba, where the settlers were mostly Galicians and Poles, and used what we soon came to call the Polish hive. It was really a variation of the Berlepsch hive as illustrated on page 114 of "The Hive and the Honeybee.' These hives were tall, double-walled chests that opened from the rear like a cupboard, and contained eight frames, Langstroth-size, standing on end. The entrance was by a round hole in the center of the front of the hive, and below the frames there was an empty space of four or five inches deep. Of course the bees would fill this full of honey, but the beekeeper would cut it out, and leave this space empty for wintering. We noticed that the bees in these Polish hives wintered well, the usual practice being to store them in ordinary farm cellars.

Recently there has been quite a revival of wintering discussion here, and one of the things that made us wonder just what constituted ideal conditions was the fact that a farmer, some eight miles from us, has had a swarm of bees between the walls of his house for several years. The house is not particularly well sheltered, and the bees are in the northeast corner, exposed to the extreme cold of a Manitoba winter. Moreover, he tells us that that part of the house is not heated. They wintered so well last year that a big swarm emerged in May from which he harvested more honey than from any other of his bees, either wintered colonies or package bees.

It seems inconceivable that mere control of temperature and ventilation, which have occupied our minds so closely when thinking about wintering, could give us such results as that, for even if we assume that the bees are so far within the building as to be well sheltered from the cold, yet possessing enough of an aperture to ventilate, there must be some other condition that benefited them which we are not reproducing in our cellars.

This thought led to a good deal of discussion and some searching of the textbooks, and we are beginning to think that perhaps the solution of the problem lies in the provision of a clustering-place in the hive. The Polish hives had it below the combs. The bees in the building probably have it. Bees in a state of nature have it in their hollow trees. Left to themselves, they build their combs deeper than they are wide, and then cluster at the bottom. We force them into hives where their combs are much wider than deep, and then we give them only a quarter of an inch below the combs. Perhaps we may be forcing the bees into an awkward and uncomfortable arrangement in which they are compelled to expend far too much of their limited vital forces in keeping up their temperature.

References to authorities confirm this theory. We recall Dr. Miller and his two-inch-deep bottom-boards, out of which the racks were pulled during the winter in the cellar. Then there was that veteran, W. Z. Hutchinson. Listen to his description of his cellar: ". . . there are no bottom-boards on the hives, nor any covers. The tops of the frames are covered with two thicknesses of old carpet. . . . Let's look under a hive. Is there any sight in beekeeping more beautiful than that. See that great golden-brown cluster of bees hanging down beneath the combs until it actually touches the covering of the hive two inches below . . . etc." Notice that here there was ample clustering space.

Quinby inverted his box-hives for winter, so that his bees certainly had little or no clustering-place, but he made one observation that helps our arguments by suggesting what an uncomfortable place an ordinary hive with bottom board must be. He is talking about the wintering of small colonies and this is what he has to say: "Suppose a quart of bees were put in a box or hive where all the cells were filled and lengthened out with honey. The spaces between the combs would be about one-fourth of an inch—only room for one thickness of bees to spread through. The combs would be perhaps one and a half to two inches thick. All the warmth that could be generated then would be one course or layer of bees an inch and a half apart. Although every bee would have food in abundance without changing its position, the first turn of severe weather would probably destroy the whole."

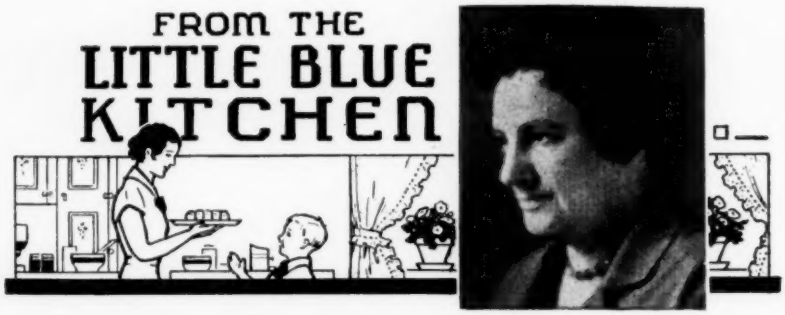
He goes on to admit that the above idea is only suggested for illustration and that in reality the cluster forms among those combs where the last brood has hatched out and where there are therefore plenty of empty cells. However when we think of the shallow depth of the Langstroth combs, we shall see that we are forcing the bees to cluster in a flattened mass, instead of the "bunch of grapes" which they resemble under natural conditions.

We are experimenting with a larger hive, and have prepared twenty Jumbo-size bodies for the coming season. These have ten frames like the Langstroth in all respects but 2¼ inches deeper. Our present idea is to get them occupied, then at the end of summer take out four or five of the central combs and put in place of them a like number of Langstroth combs, well supplied with honey. This would enable the bees to cluster in a natural manner.

Just one thing more. Those Polish hives that used to winter so well had their clustering place well away from the entrance, so that drafts would never blow on the bees. How would it be to winter those big Jumbos outdoors, packed in planer shavings, and having an entrance by a tube leading to a place two-thirds of the way up the hive? With the deep frame, the clustering place, and the upper entrance, and with absorbents placed above the frames, would not that be about right for wintering in this climate?

[Mr. Sanders has struck a vital point. Wintering is usually forced

and unnatural. I have in mind to try a revision of the old style Dadant hive to provide for a bottom rack like that used by Dr. Miller which may be removed in winter and the entrance closed up entirely, with flight holes which may be opened about two-thirds of the way up the front of the hive. For our climate, with good wind protection and plenty of clean stores and young bees, we should get perfect wintering every year with this arrangement.—Ed.]



THE OLD WORLD'S WIFE

The old world's wife is dressed today
In gown of purple-golden hues;
Her collar is of Queen Anne's lace
And russet are her dainty shoes.

Upon her lovely bronze-brown hair
Is perched a pumpkin-colored hat—
Wove of the ripened meadow-grass,
And purple grapes encircle that.

She wears a cape of aster hue,
Trimmed with the thistle's down of white;
Her jewels, of the morning dew,
Gleam neath the touch of sunbeams bright.

The old world's wife is beautiful
In this, her new October dress,
No wonder that the world is glad
When wedded to such loveliness.

—Lida Keck-Wiggins.

— : —

ON a Sunday afternoon recently, Honey Lady was most willingly and happily the auto guest of a charming little lady whose name and nature are identical, for she is called "Miss Sweet." Miss Sweet is a librarian and unusually "up" even for one of her profession, on all the fascinating literary things that book lovers adore; also she is a nature lover and interested in all the outdoor friends, even to our own beloved bees. So to go places and do things with Miss Sweet **is** sweet, and that isn't any joke.

We rode across the Hudson River on a ferry boat; turned north, and headed for "Slabsides" the woodland lodge where the late John Burroughs got personally acquainted with Mother Nature in all her moods. The trip in itself was a pure delight. Most of the time one or more of the Catskill Mountains delighted our taste for the majestic; the Hudson, always nobly beautiful, emulated Ol' Man River, and fitted into the scene of tranquility by just quietly, peacefully "rollin' along."

Enchanting villas of New Yorkers and permanent Orange County dwellers, too, kept the idea of "home fires burning" in our hearts all the way, and soon also we entered the famous fruit-growing region of New York. All along the road wayside marts offered purple grapes, golden squashes, sunkissed peaches with the bloom of the orchard still upon them; "roasting ears" in their green jackets and brown tassels; the humble Murphy and his brother, the "sweet,"' plums of a royal blueness . . . apples of Hesperides!

After a while we turned into a little woodland lane, and Miss Sweet said: "See that modest sign there?" Honey Lady "saw" what to her sent thrills of anticipation through every vein. For the sign said "Slabsides."

There, we disembarked from our coach and began one of the most fascinating hikes Honey Lady ever hopes to enjoy. The road was narrow and rough, but who cares when one has winged feet? The trees, old and dignified, seemed to offer us leafy hands in welcome; grape vines clinging lovingly to some of the boles held out to us bunches of luscious fruit, larger by many degrees than the ordinary wild grape. Flowers bloomed at our feet; some of them old friends; others strange varieties, no doubt transplanted there by John Burroughs himself before he went to help care for the gardens among the stars.

Eventually we turned from the path, and this time a wee lodge built of unhewn tree trunks, nestling under a canopy of thickly foliaged branches, came into view.

"Well," Miss Sweet said, reverently—her tones sounding as though she were raising her hat or touching her heart . . . "This is 'Slabsides!'" The thought of being actually at the doorstep of a little house she had loved, from afar since childhood, touched Honey Lady into awed silence. Then we reverently climbed to the stairlanding and peeped through the heavily wired windows. (The door now alas is locked with a Yale lock . . . and belies the welcome of its quaintly fashioned latch, made of a bent piece of wood.) Of course we understood the "why" of all this, for Henry Ford, Burroughs' old friend, now owns the famous little retreat and wants to preserve its furnishings just as the great naturalist left them when he went on his final journey to California—never to return alive.

Honey Lady could "use up" all the Blue Kitchen space telling of the things she saw, but will mention just one. On his table, rough hewn from undressed timber, there lay a dictionary just as though laid down hurriedly, another book or two and a short pencil which had been used down to the very nub of its point, the writer no doubt having written with it some of the Nature lore which has since encircled the globe. The afterthought that came to us both was "How wonderful to do one's chosen work in such heavenly-beautiful surroundings, such sylvan solitude, with mountains all around and one of the most beautiful rivers singing to one not so far away! A built-in bed, a chair, kitchen utensils on a shelf, and a tea towel hung up years ago and drying still on its peg! John Burroughs knew the way to receive great thoughts for they always come in silence and solitude and these "Slabsides" provided to the last degree.

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Incidentally there were "honey for sale" signs all along the road to Slabsides, which reminds Honey Lady that now's the time for the beekeepers' wives and daughters to take a few jars out to the roadside market along with the vegetables and fruit for there are always tourists who have the honey habit and adore to buy a bit right where it is made!

— : —

Honey Lady passes along now a recipe for which a lady named Mrs. Alice C. Sloan won a prize not long ago. When tried out in Blue Kitchen this recipe proved itself not only worthy a prize but also of being (like every blessing should be) passed along. It's for "Honey Nuts." Ever make any? If not, try **this** on your baking sheet!

Honey Nuts

½ cup brown sugar
½ cup strained honey
½ cup shortening
½ cup sour milk
½ teaspoon soda dissolved in a little hot water
2½ cups flour
1 teaspoon baking powder

The honey used in the Blue Kitchen is furnished for the good of the cause, by the New York State Federation of Beekeepers' Societies.

1/3 teaspoon salt
1¼ cup quick-cooking cereal oats
1 egg
½ cup finely broken nut meats
½ cup seedless raisins
1 teaspoon vanilla

Directions: Mix the ingredients in the order given, having sifted the flour with the baking powder. The batter should be about the same consistency as biscuit dough. Drop by spoonfuls onto a greased baking sheet, having each unbaked honey nut about the size of an English walnut. Bake in a moderate oven. This makes about two and a half dozen.

These delicious little "nuts" make a wonderful addition to the boy's or girl's basket lunch, and everything in them is so wholesome! At first Honey Lady rather gasped at the long list of ingredients but she found every single item on her pantry shelves, which as Amos says surely was "somepin'."

— : —

Once before Honey Lady gave Blue Kitchen readers a plain vanilla ice cream recipe for electric refrigerators. Using this same basis (and she will repeat for the convenience of those who didn't "catch" it before) she recently made a lovely peach ice cream that the small boy who lives at Honey Lady's house now, pronounced "just swell!"

Here's the recipe as **wuz** and **az is:**

1 cup whipping cream
1 cup coffee cream
½ cup stewed ripe peaches cooked with strained honey and mashed
½ cup more of plain honey
a few drops (not more) of almond extract

Honey Lady first whipped the cream until stiff; then added the coffee cream, blended with the plain honey; then the almond extract; then the peach and honey "mash." After all the ingredients were thoroughly mixed, she poured it into the refrigerator tray. In an hour and a half she took it out and agitated it with a spoon; then smoothed it all down again and tucked it into its bed. The result was, well, who can say more than "Chicky" the boy boarder said with full boy enthusiasm "it was just swell!"

— : —

Now that it's pumpkin pie time, don't forget that extracted honey not only does effectual sweetening for the filling but adds a delicious flavor all its own.

— : —

If you find for some reason that your cream doesn't want to "whip" add a little honey and watch what happens!

— : —

One of these crisp autumn evenings, give the family a surprise dish in the form of a "mess" of Spanish Rice. You can make this with honey for sweetening and thus add an extra health value. Here's a very good general recipe to follow:

1 cup rice
2 cups water
2 tablespoons shortening
2 tablespoons chopped celery
1 tablespoon minced onion
1 chopped green pepper
2 tablespoons flour
1 tablespoon extracted honey
1½ cups boiling water
1 cup tomato pulp
4 boullion cubes (or same amount beef broth if you happen to have had boiled beef lately)
¼ cup chopped ham

Boil rice in water until soft. Melt shortening, add minced onion, celery and pepper and cook until brown. Stir in flour, tomato pulp, sugar and cubes dissolved in boiling water (or the beef juice). Boil until thick, stirring constantly. Lastly, add chopped ham or other left over meat. Mix sauce with rice and serve.

Any experienced cook may substitute various of the articles named from her store of left-overs. She will see, incidentally, what a fine way this is to use up odds and ends found in the refrigerator and to have a succulent and delicious "new" dish as a result.

How Shall We Finance?

(Continued from page 443)

ably will be able to dispose of it at a fairly satisfactory price.

But what about the years to come when there will be overproduction? The loss in low prices alone will in one year amount to many times the amount required to maintain the Institute.

There is only one way to prevent this condition, and that is to bring about an increased number of honey users and a greater consumption of honey to take care of the overproduction. Individual effort on the part of producers and bottlers will not make the slightest difference, but the American Honey Institute, working through a hundred sources that carry the story of honey to millions of people, can do this. The success of the effort, and the number of people reached, depends entirely upon the united support of the beekeeping fraternity. If sufficiently great in number, single contributions of $1.00, added to other contributions, can produce a great power for honey publicity.

What, then, is to be done about the matter? Will we simply sit still and allow the Institute to die from inertia on the part of the beekeepers, or shall we make the Institute so important and so widely known that every individual with a crop of honey to sell, will be sought out by consumers rather than having to go from door to door, begging people to buy honey?

I take the liberty to make the prediction that if the American Honey Institute is allowed to pass out of existence, the beekeeping industry will drop back 25 to 50 years, and marketing conditions will be so hopeless that 3 cents to 5 cents per pound will more often be the wholesale price than will 6 cents to 10 cents, the necessary price to really make beekeeping a profitable venture, even for the man with a large number of colonies.

A man who can manage bees so as to produce 100,000 pounds of honey per year ought to be worth a salary of $5,000 per year. What does it cost to produce 100,000 pounds of honey, and how much interest is necessary to pay for the investment and depreciation?—Probably not less than $2,500, so the $5,000 man becomes a $2,500 man for the simple reason that he is engaged in an unorganized industry where he is forced to sell below the cost of production. Now note this particular point—he would have to receive only 2½ cents more per pound to receive the salary to which he is entitled.

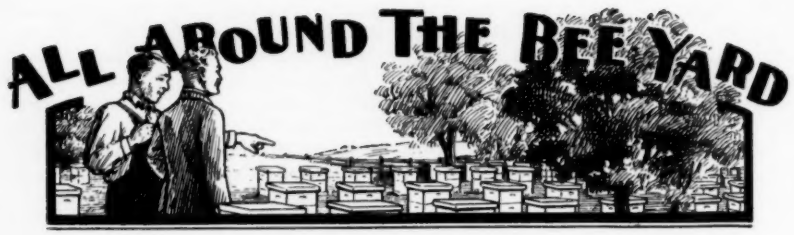
Now, let us take the small beekeeper who, we shall say, has only twenty-five colonies, and secures 100 pounds per colony. At 5 cents per pound he would receive a net income of $125. By the time he pays the interest on his investment and depreciation, containers, labels, and other costs, the actual income will have decreased to $50 or $75, so that, as a beekeeper, he is worth about $50 or $75 per year. At 7½ cents per pound, without any additional cost, he could double the income and net $125 a year as a beekeeper.

It is true that honey, like any other product, is worth only the price that can be gotten for it, but if honey is not worth 7½ cents a pound, which is slightly more than sugar, it isn't worth producing and putting on the market.

There are two courses to follow—either the honey business must of necessity remain in the "piddling" class with every member of the industry shamefully admitting he keeps bees—or it can be made a real industry with everyone engaged in it proud of being called a beekeeper.

The American Honey Institute is the factor of success. It will be interesting to see how many beekeepers are sufficiently keen to drop us a card offering suggestions and who are willing to sign up as members of the American Honey Institute Association, insuring a five-year program.

If you are willing to back a sound financial plan and can make any suggestions for the development of such a plan send us a card or letter to Box 2020, University Station, Madison, Wisconsin.



By G. H. Cale

HOW many beekeepers realize how valuable the monthly market news service, by the United States Department of Agriculture is in the marketing of honey? I find my back copies of this valuable paper penciled with notes on the margin about conditions, prices of honey and so on.

According to this report, the price of honey is slowly advancing a little. I'll leave it to M. G. Dadant, in his "Crop and Market," to tell you more about it but if you do not get a copy of the market news service, write to the Bureau of Agricultural Economics, Independence Avenue at 13th, S. W., Washington, D. C., and have them send it to you. It won't cost you a cent.

— o —

I don't suppose we will ever get over wondering at the strange marvels introduced by a season like the present one. Dr. Miller used to say "Bees never do anything invariably." This year the weather had a remarkable effect on the distribution of bees. When it was quite hot, the bees did not do much during the middle of the day. Towards the close of the white honeyflow, when we were moving supers, there was a great change noticeable in the temper of the bees.

Every beekeeper uses a smoker when he needs it but at other times he usually forgets the use of it. During the removal of the honey at this time, the thermometer ran very high, sometimes 100 to 115 in the shade. We frequently found that our smoker was neglected, went out, and we were handling the bees without smoke.

When I first observed this, I was of the opinion that the smoker had been set aside more or less because we were just about as near brainless workers in that terrific heat as human beings get to be. An experiment on a few colonies showed that the bees were just about as brainless because they absolutely wouldnt' sting. You could move your hand quickly across the combs and the bees showed no tendency to bother at all. I never have seen anything quite like it. In the same yards, this fall, they are as free with stings as fleas on a dog's back.

Those bees did work vigorously however, during the cooler part of the day. They were out quite early in the morning. At some of our yards we worked from day to day sleeping over night under the trees. It was so dry, there were no insects; no mosquitoes to bother. Waking up early in the morning, it was pleasant to hear the strident notes of flying bees. And how rapidly they were going to the fields and what interesting differences there were in the pitch of the sounds.

Some pitched high, some pitched low and all making a soft blended music which perhaps only a beekeeper can appreciate. I never realized before what a variation there could be in the flight sound of bees. Shall we call that part of the poetry of beekeeping? I think so.

— o —

U. S. Miller, of Idaho, writes a nice card about Mr. Demuth's slogan "Raise Workers for the Crop and Not on the Crop." He says that this idea if carried out spells success; the opposite, failure. How true that is. He also hopes that we will continue "All Around the Bee Yard." I can't stop it, Mr. Miller. There are too many nice comments like yours.

— o —

This is a year of second or delayed bloom on many nectar bearing plants. White sweet clover is blooming late this fall. Dandelion always comes out again in late fall but this year it is more abundant than ever. Buckbrush, or Indian currant, which usually appears the 20th of August, bloomed this year about September 10th; just a week ago. The bees worked on it well, too.

— o —

What's the answer to this one? Caucasian colonies were requeened with Italian stock. Examination for acceptance showed eggs and brood but later examination disclosed **the presence of a Caucasian queen instead of an Italian.**

Can you explain it? My guess is that there was a mother and a daughter in the same hive during the first requeening and only the mother was killed. Is this a commoner occurrence with Caucasians than with Italians? It will take somebody like Herman Rauchfuss to answer this question.

— o —

Popular Science Monthly for August has an item, handed to us by one of our teachers here, Miss Goldia Berry. It has the title "You Have to Know Your Botany If You Want to Be a Bee." It asks how a bee knows enough to fly from flower to flower of the same kind instead of going from one kind of plant to another. How do they know the different kinds of flowers; by smell, by sight, or by feeling? If the bee carries honey back to the hive and starts out again, does it begin on the same kind of flower or on some other kind?

Perhaps somebody will answer in Popular Science but I wonder if they can give a good answer. Every beekeeper has observed constance among bees and yet there is a variation in it. We all know that when bees work on white clover, they will carry honey back to the hive and come out to start again on white clover as long as it's in bloom. But that is not always true of all nectar bearers. We know that bees work on different kinds of apples that bloom at the same time. This insures cross pollination and is back of the value of bees in commercial orchards.

However, I have seen bees constant even to varieties in other plants even though they may not be so in fruits. This fall there were three varieties of Polyganum or smartweed growing on the bank of a stream. They were mixed together in the same bed; not growing separately. Bees working on one variety remained constant to that variety even though they had to pass over the blooming heads of the same kind of plant of a sister nature.

Bees are also supposed to be constant in the gathering of pollen. It it particularly important that they remain that way because pollen is the agent of cross fertilization. However, years ago, I took a load of pollen from the pollen basket of a worker bee, one half of which was yellow and the other half a pea green. This was kept on a side for observation for a number of years. Certainly this bee was an errant maiden!

— o —

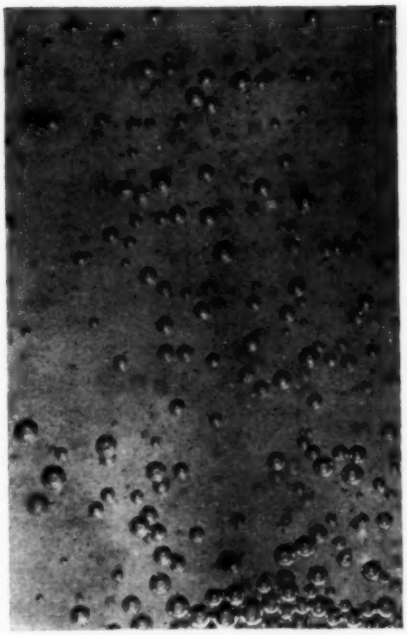
Studies of the flight range of the honeybee, made in the Field Station at Laramie, Wyoming, show interesting differences in the way bees store at different distances from a source of nectar. There the results indicated that bees a half mile away store better than those right among the flowers from which they are gathering. Bees at a greater distance were not found to do so well.

Here, this summer, a yard in a forty-acre field of sweet clover apparently stored vigorously from that field and did not go very far from the front door to get loads. This was the best producing yard in a group of six. Location makes a difference even in this interesting behavior.

Honey Tea

4 cloves, 1 tsp. tea or 1 individual tea bag, 1½ tsps. honey (mildly flavored, boiling water. Pour the boiling water over tea, cloves, and honey. Steep two or three minutes.

Honey Bubbles



An ascending procession of golden bubbles in filtering honey, caught by the camera of William M. Harlow, of the New York State College of Forestry, at Syracuse, reminds one of fat globules that sometimes get in from cappings melters. Some of the cloudiness in honey is due to honey from this source mixing with the entire body of extracted honey in the tanks.

Honey bubbles in glass bottles, those big air balls that move when the containers are tipped, offer a good tool for advertising. Every eye is caught by the slow rise of the shiny ball. Why not rig up a turn table for a tall bottle and put it in a window display?

I Can't Agree, Mr. Kruse

I want to criticize the last article, Mr. Kruse, page 408, about treating combs with a solution. Where one beekeeper might do this successfully, another would fail. In the first place extracting diseased honey is sure to mess things up more or less. Then what to do with the honey?

Also some would misjudge the strength of the formaldehyde solution. At the best it is a terrible job and the bees do not like the combs.

Burning is really the best method of eradication although if one is equipped with steam in a bee tight building, eradication can be done 100 per cent and still salvage the frames and wax. Let the honey go with the water into an underground sump.

It takes quite an elaborate equipment so unless one has a large number of bees, it is best to burn.

I am sorry to see such articles published as certainly every beekeeper looks forward to the day when disease will be a thing of the past.

Albert Koehnen,
California.

Now Then, for a Little Lesson in Zoology

The title of a clipping we have received through the courtesy of G. J. Fifield of California, concerning a tiny sun bear, resident of a menagerie on Ventura Boulevard, Los Angeles. This little animal is the property of G. B. Glick. Bears are quite partial to milk and honey. Sunny Bear, likes a bottle filled with milk and honey. "Milk and honey is not only excellent for the digestion, but is a good hair tonic," he confides. After draining his bottle, Sonny spends several hours retrieving the remainder of his luncheon from his coat.

Tropical Hurricane Hits

A short letter today comes from Eells Honey & Bee Company, Morgan City, Louisiana, who started producing package bees this year, advising us that they are cancelling orders, have dismissed their help and are working themselves out of the tropical hurricane which hit them a few days ago. They anticipate being back in good condition, however, for the coming season.

Wild Honey

Maxwell Brothers, of Pamplin, Virginia, sent out an attractive folder. They call themselves producers of wild honey and the folder gives important facts about honey. It gives the average chemical composition of honey and recipes for the use of honey. It is attractively printed in green and red.

Miniature Apiary Goes On Exhibit

The above picture appeared in the Dallas Morning News, Dallas, Texas, and was sent in by John R. Hancock of that city:

"A miniature apiary, complete with modern beehives, apple trees, honey house and residence a portion of the bee project worked out by the 100 pupils of the DeSoto school, has been placed on exhibit at the office of the county superintendent, H. L. Goerner, in the court house. The exhibit shows the evolution of the beehive both in miniature and natural size, as well as bee supplies, a miniature honey extractor and strainer. Mrs. H. L. Lackey, principal of the school, is shown in the picture."

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

SYRUP OR CANDY

I have two late hives of bees that are short on honey and as I bought queens for them I especially desire to keep them. Honeyflow here is very slack this fall. How can I feed these two colonies now, on either candy made with honey and sugar, or on sugar syrup, without the other bees in yard robbing them out entirely?
MISSISSIPPI.

Answer.—Sugar syrup made of two pounds of sugar for each pound of water will make a good syrup, which you can feed, in the evening, in cans with the cover pierced with small holes and inverted upon the hives, under the cap or cover.

If you put the feed on in the evening, after sunset, you need not be afraid of robbers and you can soon give them enough for winter. Honey candy will do in small amounts, in spring.

HONEY IN CAPPINGS

Is the percentage of honey lost in drying cappings in a radial extractor great enough to pay to run them over a capping melter? I mean by this to use the capping melter and not the dryer. What size capping melter would be required for a large sized radial extractor?
IOWA.

Answer.—We always wash our cappings in warm water, after draining all the honey we can out of them.

The water thus obtained serves to make very good vinegar, by simply adding a little cider or other fruit juice and keeping it in a warm place, say about 75° to 85°.

It pays to wash the cappings in this way when we have a sufficient quantity of them. Use a container proportionate to the lot.

UNSEALED STORES

My deep extracting frames were extracted and put back on the hives to be cleaned out and when I looked at them just before I intended to take them off to store for the winter I found possibly two pounds of uncapped honey in each frame in two supers, which must have been brought in at the last of the fall flow.

This one colony is regularly a two-story hive and, of course, now is four stories high. This hive is literally crammed with sealed stores below and our local Dadant dealer here, F. J. Rettig, tells me these unsealed stores will sour before spring and spoil next year's honey crop for me.
INDIANA.

Answer.—I doubt that this honey would sour before spring, but I think it is better to extract it. Wait till a nice day, when you can open the hive and shake the bees off.

Extract this honey and put away the combs. Better not return them to the bees till spring.

STINGLESS BEES

I saw in our daily paper a quotation that the South American honey bee cannot sting. What information can you give us on them and are they subject to the American foulbrood?
MICHIGAN.

Answer.—We know that there are stingless bees in South America. But they are not like ours and cannot be made to give a crop of honey in North America.

If you learn something definite about those bees and can import them, we should be glad to have particulars.

FEEDING

1. Is there any real damage or loss to hives of bees when sugar pails are left on all winter?

2. Also is it better to feed bees when the weather is warm or in September or later on?

3. Now if bees have been packed in packing cases all winter, shouldn't they be left packed until weather is warm, keeping cold winds from them?
VERMONT.

Answer.—1. If the pails are left on top of the cluster, there is a loss of heat which is bound to be prejudicial to their wintering, for bees need all the heat that may be stored by them. So we would urge our beekeepers to remove the feeders when they are empty and close the upper space.

2. Yes, it is better to feed the bees when the weather is comparatively warm. We always want to finish the feeding before they quit flying in the fall.

3. Better leave the packing cases on until warm weather for the bees need plenty of heat when spring comes, in order to breed plentifully.

BEES FAIL TO EMERGE

Could you please tell me what is wrong when the young bees begin to hatch and can't get out of the comb? They are alive for a day or so. They get the cell uncapped and are stuck fast at the base of the cell.
ALABAMA.

Answer.—I have never seen what you mention of bees sticking fast in the cell, except when some moth worms made webs through the combs, in which case the bees along those webs would be likely to stick fast to the cell for a while, being held there by the web. This trouble does not amount to much. Be sure and keep your colonies strong, so the moths won't lay eggs in them.

WINTER STORES

1. Is heartsease honey good for the bees to winter on? At the present time my bees are having a good flow from it, buckwheat and some sweet clover mixed in, but chiefly heartsease.

2. I have a few swarms that have stayed built up all the time and at the present I doubt very much if I could get them in two hive bodies Most of them are young bees. I have heard that a swarm like that is very apt to starve this winter due to so many bees to eat the honey. Is that a common occurrence? How would you remedy it?

3. Would this be too early to take off all the supers and let the bees fill up their hives for winter? Many of my swarms have not reduced their brood nest at all and are producing a large number of young bees. If a frost should come along now, I would have to feed back a lot of honey to them for winter. Then, too, the bees would completely stop the queen from laying eggs. Would bees that are in the cells now be too old to be of much use next spring, or should I let them raise more young bees for a while yet? Could you give me your experience?
ILLINOIS.

Answer.—1. Yes, heartsease is good honey for bees to winter on, when it is well ripened.

2. If your swarms have between 30 and 40 pounds of honey, they will winter all right The stronger they are the better it is for winter.

3. Our experience is that the bees usually store their winter stores in the hive body, without having to be crowded in the supers. But it may be that yours have not put enough honey below. In that case it may be well to crowd them by removing the supers. Bees reared at this time are all right for winter, if they have enough food. They are good for spring breeding, as they keep the hive warm.

BEE CELLAR

Happy enough to get the American Bee Journal and to be able to read it. I lived in America four years but not in any contact with bees or men who were interested in them. Have been trying to get along with them here in a very small line. Now I want to ask "How should I build a cellar for my bee?" The winter here is long and cold, being 25° below many times, but it is not so severe as in Illinois when it comes to wind.

Now I want to know if I should use concrete wall in the cellar. Have been figuring that I need to have double walls with an inch empty space between them, otherwise it will be too damp for them, but will wait for your answer.
SWEDEN.

Answer.—It will be all right to make a cellar with double wall and a space between. But we use an ordinary house cellar. Our cellar has a partition to keep the bees away from the other parts, so that they will not be disturbed when we get potatoes or fruit. There is a furnace in the main part, so that when it is very cold we can heat the part that contains the bees. We aim to keep the temperature of the bee room at between 45 and 50 degrees Fahrenheit. When it is warmer than 50 degrees the bees become restless and that it why we have discontinued putting them in the cellar, as in Illinois it often turns warm outside so that the bees that are on the summer stand can take a flight.

If you have a hill into which you could build your bee cellar, you would find it advantageous to put it into the hill and cover it with about 10 or 15 feet of earth. I know of splendid cellars in Minnesota which are built in that way so that they can take the bees in from the side, then build an anteroom and fill this with forest leaves to keep the cold out.

Be sure and have at least one opening for air, so that there may be ventilation from time to time. In fact I would have ventilation all the time.

MAKING A START WITH BEES

I owned about six hives of bees when about sixteen years old. Had to give them up on account of moving. I liked to handle them very much and have the bee business on my mind very strong. I am 37 years old now. I have five acres of land at Daytona Beach, Florida, near Indian and Halifax River area, and want to start the business there next summer or fall. Can you give me an idea?

1. About starting a business of this nature?

2. How many colonies should I start with? I can buy large swarms of bees here for $1.00, if I furnish the hives.

3. Would it pay me to buy these and move them to Florida? I can get a large truck here to move me to Florida for $50.00 and could move 25 or 30 stands of bees with what household goods I would have.

4. If I invested about $200.00 in bees to start with about how much profit should I expect the first, second or third years?

5. I have just bought three box hives with caps on them from a neighbor. Should I leave the caps on for spring food? They were robbed in June or latter part of May. The season here lasts till latter part of October.

6. I want to transfer these bees to patent hives at the proper time. When should I do this?

7. What would be the most practical book for a beginner in the bee business?
KENTUCKY.

Answer.—1. I don't know the place you mention at Daytona Beach, Florida. But I suppose it would be all right as bees do well in Florida.

2. As to the number of colonies you should start with it depends entirely upon how much money you wish to invest. Usually, about 200 colonies may be kept profitably in one spot. But you can increase the

number easily and if you have too many for one spot, you can readily build outapiaries.

3. Yes, it would pay you to bring those hives to Florida, if you have a good location there, with plenty of blossoms.

4. As to the amount of money you could make in investing $200, it would depend entirely upon the conditions and the care you gave them.

5. As to the book you may want, we publish the "Honeybee" by Langstroth and Dadant, which you will find advertised in the enclosed circular. We also send you catalog of bee supplies.

POWDERED SUGAR FOR WINTER

I bought two sacks sugar to feed to the bees and one of these sacks was powdered sugar. Since I have fed this sugar I fear it will kill these bees this winter. Can you tell me if powdered sugar has some adulterant mixed in it, to make it suitable for cake frostings, etc.? The grocer claims it is identical with the regular granulated sugar except it is powdered, but I do not think it is. In making the syrup of a mixture of one part sugar and one part of water the syrup looks milky, which I think is caused by something mixed with the sugar. I never remember of reading anything about whether or not it is safe to feed powdered sugar for winter consumptino. WISCONSIN.

Answer.—As a matter of course I do not know whether your powdered sugar was pure. But my opinion is that it was pure. The reason why the syrup looked milky at first was that the sugar dissolves more quickly when it is in fine powder.

If there is no appearance of suffering among your bees I think you may feel very safe.

Does the syrup remain milky all the time or does it just look milky when first mixed?

FEEDING BOILED HONEY

I have about fifty pounds of honey from last year and by mistake a few quarts of water got in it and it causes the honey to get sour. Would it be all right if I feed it to the bees by boiling it first? MISSOURI.

Answer.—Yes, it will be all right to feed that honey to the bees after boiling it. However, I would recommend that you hold it until spring and feed it when the bees can go about, for the fermented honey would be more or less unsuitable for the bees if they were confined to the hive by cold weather.

BEES IN TOWN

We have sold our yard with the bees with all accessories to L. G. Lewis of Chicago, and will take possession of same in a month or so. But just now a petition is being circulated to get the bees out of town by Percy Hair whose residence is over 400 feet from the bees, he claims that the bees are a nuisance and is a damage as said bees will sting his children, annoy his friends and puncture grapes. Our bees are in a cluster of trees and no houses within 200 feet, and furthermore the nearest neighbors did not sign the petition.

Said L. G. Lewis intends to be a bee man as he has already subscribed to the A-B-J.

Now if said village board do decide to pass an ordinance are we entitled to a hearing and continue the matter or the case until we can get evidence supporting our case? ILLINOIS.

Answer.—The Board of Aldermen of a city are not empowered to declare bees a nuisance, so you can bring bees into a city in spite of its board of aldermen. The only thing they can do is to declare them a nuisance after they have done damage and assess the damage.

So I would not hesitate to bring bees into the city in question and let them do whatever they can to try and prove them a nuisance. The supreme court of Arkansas has passed upon this in 1899. See Law of the Honeybee, page 39.

Cook-DuPage Meeting — Evergreen Park, Illinois, October 27

The next meeting of the Cook-DuPage Association will be held October 27th in the store of Mr. Charles Siegle, 3000 West 95th St., Evergreen Park. This is to be a Hallowe'en party. Everyone is to come masked.

The business meeting will be at 3 P. M. Supper at 6:30. Everyone is asked to bring honey pumpkin pies and also sandwiches for each of their own families. Leroy Stockdale, Secretary-Treasurer.

Michigan Meeting October 10 Near Niles

The beekeepers of southwestern Michigan are cordially invited to meet at the home apiary of Oscar Dodd & Sons about six miles north of Niles on M 40, October 10 at 2 P. M.

Besides the speakers' program, there will be some really fine entertainment provided which will make this a meeting to be remembered. Come and bring a guest.

R. H. Kelty, Michigan.

Southern Illinois Bee Men Meet

A very successful meeting was held at Waterloo, Illinois, on Sunday, September 9, at the Oexner grove. The affair was sponsered by the St. Clair County Association with a member of the committee selected from each of several localities.

With 180 persons in attendance it turned out to be one of the best summer meetings held in the Middle West for some time. Beekeepers came from far and near from both Illinois and Missouri. A basket dinner was served and when the wives of beekeepers come together on an occasion of this kind there is always plenty to eat.

There was a well rounded program of talks, entertainment and music as well as an exhibit of honey and fall blooming honey plants.

It was very evident that the members of the committee had spared no effort to make the occasion a great success since nothing was lacking in either food, refreshment or entertainment. Speakers included President Mackelden of the State Association, Chief Inspector Duax and several of his deputies and members of the staff of the American Bee Journal.

Canadian Pacific Exhibition

There was a considerable increase in the amount of honey shown in connection with district exhibits of flowers, fruit, and other farm products, by municipalities and other territorial districts at the Canadian Pacific Exhibition in Vancouver, B. C., this year. At the same time massed displays of honey were not so numerous as in previous years.

Among the few of the latter type displays was that of Ivo Tuyltens of Agassiz, who reproduced an exterior of a store completely erected with jars of honey, while doll figures passed up and down the steps to the establishment. This exhibit was awarded the first prize for the best display of 300 pounds or more in the commercial class.

A. Keir, Kennedy and Scott Roads, New Westminster, carried off the prize for the highest number of points in a display in the commercial class of honey packed in jars, cans, and cartons, as well as combs and wax balls.

Other awards in the various sections were:

Honey, light—1. A. Keir, R. No. 1, New Westminster; 2. Mary McCallan, Ladner; 3. Ivo Tuyltens, Agassiz.

Honey, amber—1. J. G. Stark, 6795 Winch St., Lochdale; 2. Mary McCallan; 3. A. Keir; 4. Ivo Tuyltens.

Honey, chunk in glass—1. Mary McCallan; 2. A. Keir.

Honey, granulated—1. A. Keir; 2. Mary McCallan; 3 Mrs. T. H. Saunders, R. No. 1, Steveston.

Beeswax—1. A. Keir; 2. Mary McCallan; 3. J. G. Stark, 6793 Winch st., Lochdale. F. H. Fullerton, British Columbia.

Don't Forget the Valdosta Meeting

The American Honey Institute, American Honey Producers' League, Bee Shippers of America, Apiary Inspectors of America, all meeting together at Valdosta December 17 to 19. If you plan to go, write a card to American Honey Institute, Madison, Wisconsin, and tell your plans to attend and how many will go with you.

A new feature announced in the American Honey Institute advertising in this issue is a honey cookery contest. Full information is given in the usual Institute advertising space.

National Honey Week

Remember, National Honey Week

is coming fast, the date is November 11 to 17. Read our editorial in this issue.

How many local stores, clubs and schools have you tried to get interested in the Honey Week program? Get a copy of the Institute's program suggestions and make your local contacts. Unless you get Honey Week material far enough in advance, American Honey Institute will not be able to take care of your orders due to the low supply of printed material and because of the Institute's small staff. Memberships are being received so slowly that the Institute is being forced to operate accordingly.

Write to American Honey Institute, Madison, Wisconsin, for Honey Week suggestions and then get busy.

Washington State Association at Tacoma November 6-7

The thirtieth annual meeting of the Washington State Beekeepers' Association will be held at Tacoma Tuesday and Wednesday, November 6th and 7th.

M. F. Mommsen,
Secretary.

Report of Florida Convention

The Florida Beekeepers' Convention at Bradenton on August 29-30 was largely attended by beekeepers from all over the state.

The former President, W. J. Barney of Bradenton, addressed the beekeepers. R. E. Foster, State Inspector talked on bee diseases and A. C. Lundin, District Deputy of Tampa, discussed honey grades and displayed a number of glass containers gathered from retail stores claimed by the retailers to be orange blossom honey. They showed by their large variation in color the extent of attempts to deceive the public as it was clearly evident that only three of the samples were only pure orange honey.

Mr. Haines, of House and Haines, large honey producers of St. Petersburg, talked on the cost of production of extracted honey. His experience and investigations showed the cost to be very near 8 cents per pound.

A resolution was unanimously adopted requesting the Post Office Department to issue an order to the Postal Service to handle queen bees as outside mail and not to place the cages in mail sacks. This handling of queen cages as outside mail would eliminate the danger of injury and loss by being thrown from moving trains and other rough handling.

The meeting was royally entertained. The fish fry was relished at the evening meal. The evening meeting was featured by music by students of Bradenton followed by four moving pictures showing the activities of bees and facts of bee behavior. The entertainment closed with a comic reel.

Arrangements were made to put on a honey show at the Florida State Fair the coming winter at Tampa. The honey to be donated by members of the Florida State Association. After the exhibit the honey is to be sold and the proceeds donated to the American Honey Institute. [Hurray, a good idea. Let others follow suit. —Ed.]

Alfred Pering and Mr. Darby, Secretary of the Association, with Mr. Hutchenson started home at about four o'clock and near Plant City suffered an accident. Mr. Pering was thrown against the windshield, and rendered unconscious from concussion. He received some internal injury. Mr. Hutchenson was thrown against the stearing wheel and hurt also. Darby escaped with lesser injuries. Pering is now convalescing and the doctor thinks he will be about in a few weeks.

Mrs. A. H. Pering,
Florida.

A Good Honey Plant

I have mailed you from Nebraska a small branch of a shrub. I never saw a shrub which was so "beflogen" with bees, to use an old German expression, as was this one. I am curious to know the name of it. The shrub was growing on a lawn, was about five feet high, had a few small thorns, small purplish flowers and narrow silvery leaves. It begins blossoming in May and continues blooming until frost, during all of which time it is industriously visited by bees.

R. H. B.

The shrub is the Matrimony-vine **(Lycium)**, beloved of our grandmothers. It was planted by nearly every Mid-West pioneer and may still be found at the site of many an abandoned homestead. Apparently it is very rich in nectar for the blossoms are always much sought by bees. One cannot but wonder what crops of honey might be stored if this shrub grew by the acre like some cultivated crops.

The plant is very persistent and may well be used to cover unsightly banks. It does not become a nuisance by spreading unduly but it is very difficult to kill once it is established. Because the flowers are small and unattractive it is no longer commonly planted for ornament. The fact that it will withstand drouth, browsing by animals and other injuries which would destroy less hardy shrubs makes it desirable for situations where but few things will grow successfully. It will probably succeed under more difficult conditions than any commonly used ornamental shrub. Probably there is nothing in the nurseryman's list which excels it in its attraction to the bees. F. C. P.

Moving Eggs, Again

Mr. Latham, in August, presents arguments to show that bees do not move eggs. Right after reading it, the following incident came to my attention.

A colony was smoked out of a brood chamber containing crooked combs, whose frames could not be removed. The queen and bees were run into another brood chamber and the old one placed above an excluder.

Twenty-one days later the old brood chamber was removed from above the bee escape which had been underneath it. The combs were cut out. All brood had emerged except an uncapped queen cell containing a larva.

Now, how did that larva get into that queen cell? Did an egg bounce up through the excluder and land in the cell? Or was this larva kept in suspended animation?

Perhaps in remote ages when bees ruled the earth, they were accustomed to moving eggs. And perhaps that instinct still lurks in their subconscious minds and asserts itself now and then. At any rate the question is far from being settled.

Percy H. Boat,
West Virginia.

Queen Bees in Air Mail

The following regulation appeared in the July 27th issue of the Postal Bulletin issued by direction of the Postmaster General for the information and guidance of officers and employees of the Postal Service:

"Queen Bees Admissible in Air Mail Service

Second Assistant Postmaster General,
Washington, July 25, 1934.

Queen bees are mailable for transmission in the domestic Air Mail Service. The article appearing in the current issue of the Postal Guide, reading 'any mailable matter except that liable to damage by freezing * * * can be sent by air mail', is not intended to exclude queen bees from the air mail.

Harllee Branch,
Second Assistant Postmaster General"

Jas. I. Hambleton,
Sr. Apiculturist.

Texas Beekeepers Ask Help of Government

Here is a clipping from a Texas paper sent in by John Hancock, of Dallas, and tells of a short crop at Uvalde and the beekeepers asking for federal aid of the Government to buy 50 per cent of the current supply for relief agencies and seeking a surplus control plan with a minimum price schedule. Will they get it?

Classified Advertising Sells Honey

By Fred E. Kunkel,
Washington, D. C.

One good way of selling honey and getting new customers is to use the classified advertising columns of the Sunday newspapers. At least that is the experience of the Hillkrest Honey Bee Farm in Takoma Park, Maryland, and of Thomas P. Schuler at 1213 N. Capitol Street in Washington, D. C., both of whom use the Sunday newspapers regularly and get a great many replies—letters, phone calls, postcards—as well as direct sales and new business.

Advertising is costly and perilous financially. A good deal of money can be swept away in trying to "hit" the readers of a newspaper just right so they will buy. Advertising can make as well as break. That is why one should proceed with caution in using display advertising.

But there is no great gamble with the classified columns of the daily newspapers—the cost is only a few cents a line and a whole inch of space more than pays for itself.

Classified advertising is far less expensive than "display" advertising. There is also another distinction—in "display" advertising, the space seeks the reader. In classified advertising, the reader seeks the space. In other words, men and women with a **want** pick up the paper which runs a heading satisfying that "want" and **look** under that heading for what they desire.

The great Sunday newspapers carry "classified" advertising and so do many magazines for that matter. As a rule, the classified rate is extraordinarily low and offers, in proportion to circulation and the rate for display, an advertising bargain.

Before advertising honey, consider if your proposition will not fit the classified columns. If it will, you can do a great deal of remunerative advertising at a relatively low price. Lots of men and women are building up a fine honey business through the "classified" ads.

In using this form of advertising, the plan to follow is to work for the inquiry and sell after the inquiry is received, by personal follow up. In other words, "Go and Get 'Em." When people call up in response to your classified ad, do not just talk with them. You should know they are interested in honey or they would not have bothered to call you up. Therefore, make every effort to get their names and addresses.

Tell them, if you have to and can find no other way, that you will bring them over a free sample—anything to get their name and address, for then you can add that to your mailing list for telephone solicitation later, or direct mail, and your initial advertising expenditure, having produced a prospect, will have paid its way. If you do not follow it up you are spending money for advertising which will be high without corresponding results.

In writing your copy, make it interesting. Write your copy carefully. For instance, the following ads in the classified section of the newspaper have produced results:

> HONEY, pure, strained, white or sweet clover, amber or Fla. orange; 5 lbs. 75c; pure maple syrup from rock maple, gal. $1.75 delivered. Phone DI - 4671.

> HONEY, finest quality mild Tongue River alfalfa and sweet clover honey; 5 lbs. 75c; 12 lbs. $1.50; pure maple syrup, $1.50 gal.; pure maple sugar, 25c lb. Phone SH - 1848.

Thomas P. Schuler, who has built up a nice honey business, says of classified advertising that it pays if consistently applied, otherwise "No, and my answer is based on two years of experimentation along this line.

"I always have in mind four important elements:

1. Season.
   A cool season is the best for honey. I expect little in the summertime as not much is used in hot weather.

2. Pay Day.
   I advertise in the paper as near payday as possible which I find is the best time to run an ad.

3. The Paper.
   This is very important. The Star here carries most of that class of ads and therefore is read most for ads and brings the best results.

4. Special Day.
   Sunday is the day to advertise. Week day ads are not read, or if read the response is too small, and bring slow results.

"In season we usually get enough new orders on Sunday (day of ad) to pay the expense of advertising, and then a steady flow of orders comes in all through the week. They come in by phone and mail. Others will call and inquire as to the different flavors and the price, and so forth."

Honey and Dumping

By Leonard S. Harker.
Great Britain.

NOW that honey production in the United Kingdom has become a commercial proposition on real business lines, the honey market is receiving close scrutiny by all interested parties. Official records show that the United Kingdom consumes about four ounces of honey **per capita**, as compared to nearly two pounds by the United States and Canada, and three pounds by New Zealand. There are good grounds for believing that the figure of four ounces for the United Kingdom (which includes home produce and imported) is conservative and does not represent the true rate of consumption. Producers are now perturbed about imports of honey from the British Dominions and foreign sources (total about three thousand tons annually).

Honey from the British Empire is imported free of duty, while all foreign honey has to pay a tariff of seven shillings per hundred weight (one hundred and sixty-eight cents per one hundred and twelve pounds or one and five tenths cents per one pound). This Empire preference has not stopped foreign imports to any great extent.

The government is now taking more interest in honey production and marketing, and honey is now scheduled and sold under the terms of the National Mark, along with other selected commodities.

The policy of the government as regards foodstuffs is—home production first, Empire sources second, and foreign sources third. The situation has now reached the stage where some form of rationing or quota for honey imports will soon be necessary, the same as has been done for wheat, butter, bacon, meat, etc. Already

data is being collected to show why honey from the British Empire or foreign sources should be limited or excluded from the United Kingdom market. It is believed that honey from countries where foulbrood is rampant should be excluded, or certificates produced to show that the honey is the produce of apiaries free from disease.

The question of honey imports is part and parcel of the general economic system, and, to get our picture right, let us take a general view of the economic situation first.

Economics

The old policy of free trade in Britain has gone and given place to the tariff policy. A beginning has been made in what has come to be known as economic nationalism and self sufficiency. Only the first sod has been cut and there is much heavy ploughing to be encountered. Britain has neglected her agriculture in the past. A prosperous agriculture forms a good market for home produced manufactured goods. Taking the world as it is, a country which neglects her agriculture is guilty of criminal negligence, because agriculture is a country's first line of defence; that was one of the lessons learned from the last war.

Under the present economic system one of the so-called "laws" is to the effect that each country must seek a favorable balance of trade. To obtain such a state of affairs, each country must actually part with more real wealth than she imports, and by fulfilling this man-made "law" is accounted prosperous, which is a total inversion of the truth.

The United States of America was able to avoid for many years the scramble for export markets, because while the country was being developed, she was able to export "internally" but since the rapid advance in applied science, especially since the war, the United States of America is now forced to join the fight for more export markets. One of the flaws of the present economic system is that no country is in a position to purchase her own production. As long as export markets were available this flaw was masked.

JOSEPH DUSEK COMPANY
726 WEST RANDOLPH STREET, CHICAGO.
HONEY WANTED
COMB AND EXTRACTED
Write for Rubber Stamp, shipping tags.
(*Reference, First National Bank*)

Dumping

A distinction must be drawn between complimentary foreign trade and exchange with economic dumping. Government subsidies, to encourage export trade, may take various forms: (1) Direct government subsidies to specific trades. (2) Indirect subsidies to all trades by artificial depreciation of a national currency. (3) Subsidies to shipping and railroads. (4) Subsidies actually paid direct by consumers in higher prices on the home market.

What appears on the surface to be a simple question of limiting or stopping imports into a country is found upon examination to be the fruits of a vicious economic system, which drives nation against nation and in the last resource will drive the world into another war.

Planting For Honey

Now what I want you to do is to please write me what kind of honey producing plant you would recommend me to seed the land with that I desire to be used for bee pasture. I would like to use about six acres especially for bee pasture. Would you recommend me sowing one acre in some honey producing plant that just as soon as one gave out another followed? Or would you suggest that I sow all six acres with all of the different seeds so that there would be a continual mixture growing on the same land at the same time? I have the land already plowed, and desire to spread lime on same, and seed the necessary crops as above required about September 1st, 1934.

I now have about 100 nice colonies of bees. T. E. S.

In answer to your inquiry about honey plants will say that in years gone by this subject attracted a good deal of attention and numerous plantings were made at the Michigan Experiment Station. The general conclusion has been that planting for honey alone cannot be made to pay.

The bees normally fly over a wide area of perhaps two to four miles in each direction from the hive. Within that area is likely to be found something of greater extent than one could grow on a small plot. The thing to do then is to plant such crops as will be of use for other purposes while at the same time giving some honey.

Cowpeas, alsike clover, white clover, alfalfa, etc., serve the bees while at the same time provide forage for live stock. There is still much to be learned concerning the adaptation of plants to certain soils and the influence on honey yield. As an example it may be said that alfalfa seldom yields much honey in the eastern states while it is very dependable in the West. In dry seasons like the present one there are very general reports of honey from alfalfa from far and near. Sweet clover also yields nectar more freely in the Plains Region although it can be expected to yield some nectar almost anywhere that it will grow readily.

The particular crop best for you to sow will depend much on the kind of soil. If it is inclined to be a bit heavy and wet it is probable that alsike clover will give you the best results. If well drained a mixture of alsike, alfalfa and sweet clover will do well. It will depend somewhat on what other use you expect to make of it. Since you mention your cows I assume that you will wish to use it for pasture also. I have found that if not pastured too closely there is more honey when pastured than otherwise as the grazing of the cattle keeps the plants blooming over a longer period. I have pastured a driving horse and a cow and calf on less than two acres of sweet clover throughout most of the summer while getting a nice lot of honey from the bloom.

One can grow alsike clover for seed following the harvest of the honey crop with good results. I doubt whether buckwheat would yield enough honey to pay that far south. Buckwheat yields well in the vicinity of the Great Lakes and in the higher elevations of the eastern states. Perhaps the altitude at Culpepper is high enough for buckwheat to yield nectar and if so it might be used as a catch crop from time to time.

My impression is that a mixture of alsike, alfalfa and sweet clover to be lightly pastured will give you the best all around return.

Frank C. Pellett.

European Beekeeping Notes

By Erwin C. Alfonsus,
University of Wisconsin

A SHORT time ago Mr. Sepp Schmid, editor of "Bienenvater" and Secretary of the Austrian Beekeepers' Union, published a pamphlet, "Timely Questions of Bee Culture," in which he raises many important problems also of interest and importance to American beekeepers. Some of his ideas, together with other news, are discussed here.

The influence upon today's bee culture comes from three sides:

1. German bee science, with its many experiment stations and research laboratories, contributed a great deal to our general knowledge of scientific phenomena concerning the honeybee, and greatly influences apicultural research and practices in the United States of America and the Soviet Union. The only scientific bee magazine, "Archiv fuer Bienenkunde," appears in the German language and is published in Berlin.

2. The American adventurous spirit has raised honey production to a

professional activity, created commercial apiaries not only in the States but in Canada, Latin-America, New Zealand, Australia, Asia, and large parts of Europe. That means the beekeeping world is going American. Sepp Schmidt calls the "American Bee Journal" and "Gleanings in Bee Culture" the best vocational periodicals for the practical beekeeper. The Langstroth hive and its derivatives has the largest distribution in the world.

3. The collective systematic bee culture of the Soviet Union endangers honey production in almost all European countries by continuous offers of low priced honey. Dr. Phillips has related much of their gigantic, breath-taking undertakings. The attempt of the Soviet Union to have 15,000,000 producing colonies will have much bearing on the American honey producers. In Europe a decrease of the honey prices has taken place already, due to the dumping of Soviet honey.

Many of the European countries produce only a part of their honey needs and large quantities of over-sea honey are annually imported. Those countries which import honey are—Germany, Great Britain, Netherlands, Belgium, France, Scandinavia, Austria, and Switzerland. Honey for industrial purposes is imported from—Chile, Mexico, Cuba, Guatemala, Costa-Rica, Porto Rico, and the Hawaiian Islands. Table honey comes from the United States, Canada, and Hungary. New export countries are New Zealand, Canada, and the Soviet Union. Since the production cost in the export countries is extremely low, these honeys usually sell in the European markets at a lower price than the domestic product, in spite of pro tective measurements.

Germany, England, Belgium, and Holland cover about 45-60 per cent of the honey consumption by their own industry, Switzerland about 80 per cent, Austria 66 per cent, while Czechoslovakia covers its own need and Hungary has a high production but a low consumption and has become an export country.

One of the main weaknesses in beekeeping in Central Europe is the inventive mind of the beekeeper and the readiness of the supply manufacturers to buy new patents, tried or untried. For example, more than 500 different types of hives are used in Europe as a result of this practice, the largest bee supply manufacturing concern in the world, the A. I. Root Co. of Medina, Ohio, offers a few hundred items in its catalog, but the catalog of a medium-sized German supply house offers close to 1,000 articles. In spite of this fact, it is interesting to note that, in the United States even with the high wage scale, a beehive sells for less than half the price of a hive produced on a low wage scale in Germany.

Wanted Amber Extracted Honey
Send Samples and best price Frt. Paid to Cincinnati, O.
THE FRED. W. MUTH CO.

WRITE FOR SAMPLES AND PRICES

Crystal clear jars of strong simple construction in four sizes — Individual, Half Pound, One Pound and Two Pounds. And the new Bee Hive jars, attractive for table use, with definite label space. In Half Pound, One Pound and Two Pound sizes. Gold or white screw caps.

HAZEL-ATLAS GLASS CO.
WHEELING, W. VA.
SALES OFFICES IN ALL PRINCIPAL CITIES

When in doubt, refer to advertisers in the American Bee Journal . . When writing to them, mention that you saw their ad in this journal . . They too will appreciate it as well as we.

THRIFTY
Package Bees & Queens
No change in 1935 prices. Let us reserve shipping dates for you early.
W. J. FOREHAND & SONS
FT. DEPOSIT, ALA.
Since 1892

PIGEONS
If you are interested in Pigeons, you need the **AMERICAN PIGEON JOURAL**, an informational, instructive 36-page monthly magazine. Sample 15c; 12 months $1; three years $2.
AMERICAN PIGEON JOURNAL
Dept. B Warrenton, Mo.

BETTER BRED ITALIAN QUEENS
Send us your rush orders as we are prepared to take care of them with the same quality and service as heretofore.
CALVERT APIARIES
Calvert :: :: Alabama

PECANS
LARGE PAPER SHELL. WRITE FOR PRICES.
Young laying queens at code prices.
JASPER KNIGHT, Hayneville, Ala.

True Label Characters

Designs that compel attention.
Colors that blend and please.
Wording that makes a sale.

Our labels and selling helps meet these requirements at reasonable prices.

Send for Catalog and Samples.

American Bee Journal
Hamilton, Illinois

European beekeepers never worried about production cost until foreign competition resulted in price slumps, and this condition has caused the beekeepers to hesitate in making beekeeping their sole source of income.

Sepp Schmid suggests the creation of a propaganda station for honey, similar to our American Honey Institute, as a method of improving this condition. While reading this pamphlet one realizes fully the value of the American Honey Institute, which renders incalculable service to our American beekeepers by making the public "honey-conscious," thus creating a domestic market. This will lead to gradual independence from over-sea sales, which cannot be depended upon much longer.

Germany, Switzerland, and Austria have accomplished far-reaching progress in selective breeding to develop strains of bees with more desirable characteristics. The native races of bees have been used mainly for this work which not only actively engaged the experiment stations but also the beekeepers in certain districts, and even whole provinces. Such accomplishments have been possible only by keen observations to detect the superior traits and line breeding with the help of cooperative mating-stations. They write of their named strains of bees as we speak here of famous high-butter-fat-producing herds of Guernsey or Holstein cattle. Some of their well-known strains are—47, 47/21, Nigra, Hessen, Sieger, etc. Such mating stations are very difficult to establish and require a location entirely free of bees, such as an island, a clearing in a huge forest, a place high up in the mountains, or perhaps an oasis. By placing one or several drone-free nuclei headed by virgin queens in such a location, it is possible to ascertain if there are bees already present. If the virgins do not mate and become drone layers, the locality is free from bees. The drone colony then established at such a location, and this colony, chosen for its superior qualities, is allowed to rear an abundance of drones. The virgin queens from various beekeepers, are brought or shipped in drone-free nuclei and mate only with the desired type of drones. There is no doubt but that this type of controlled mating after careful selection, must lead to the development of excellent and superior strains of bees. This branch of European beekeeping would appear to merit careful consideration. High altitudes in the Rocky Mountains, above the flight range of the bees in the valleys, would easily provide suited locations for mating stations. It is necessary for us to realize that our bees are far from perfect, and the attempts with instrumental insemination, performed at several experiment stations in the United States, are not extensive enough to become of general importance in the near future.

Sweet clover is also an important honey plant in Europe but contains an aromatic substance (Cumarin) which is disliked by cattle and horses and consequently diminshes its value as a fodder plant. A German experiment station has succeeded in producing a new type of sweet clover which is practically free from Cumarin and is no longer scorned by grass and hay eating animals. In the United States and Canada plant breeders have perfected new types of sweet clover, such as early blooming varieties, and varieties with thinner stems, thus greatly reducing the amount of roughage. It would appear that the combined efforts of scientists on both continents will lead to a variety of sweet clover, no longer to be grown solely for green manuring or seed production, but which will rank high as a forage plant, resulting in a great benefit to beekeepers.

The Polish beekeepers seem to be looking forward to greater buckwheat acreages. One of their experiment stations demonstrated that buckwheat is an excellent prevention for white grub infestations. The experimental plots planted with crops other than buckwheat showed an infestation during the following year of as high as 60 per cent, while the buckwheat plot infestation amounted to only 3 percent.

The retirement of Prof. Dr. Ludwig Armbruster as Director of the famous Institut fuer Bienenkunde at Berlin-Dahlem, effective April 1, 1934, is to be very much regretted. Prof. Armbruster has made many valuable contributions to apicultural research and is internationally recognized as an authority on practical and scientific beekeeping, as well as beekeeping history. Mr. W. Ullrich has been appointed acting director of the Institute. Prof. Armbruster, however, will continue to edit the "Archiv fuer Bienenkunde" at his new address —Berlin, Zehlendorf, Schreberstrasse 22, Germany.

Record Crop in British Columbia

The serious shortage of honey from eastern Canada which is expected this year will be a boon to British Columbia apiarists, who expect to harvest a record crop of honey this season.

This year's crop will realize at least $150,000, it is expected. Owing to ideal conditions the honey will weight 1,500,000 pounds (750 tons), showing an increase of 25 per cent over last season's yield.

The mild climate of British Columbia, long hours of sunshine and timely spring rains, all help to produce an abundance of nectar-bearing flowers. On that account honey production is rapidly becoming a very im-

portant phase of agriculture. Apiaries near orchards appear to be the ideal combination in the western province.

Growth of the industry is revealed by the following record of production:

1919—172 tons	1927—493 tons
1920—112 "	1928—492 "
1921—154 "	1929—494 "
1922—355 "	1930—560 "
1923—216 "	1931—580 "
1924—339 "	1932—503 "
1925—319 "	1933—600 "
1926—449 "	1934—750 " (estimated)

"Conditions in the apiaries all over the province have never been so good," said W. A. Finlay, provincial bee inspector. "While in 1932 and 1933 the average production of honey per hive in the Delta district alone was around 90 pounds, it will exceed 100 pounds this year, some hives yielding a record of 150 pounds."

There are approximately 3000 apiaries with 22,000 hives in the province. Extraction operations have already commenced in the interior, and the crop season will be over on the lower mainland by the end of August.

The shortage in the East was caused by cold, wet weather last spring, especially in Ontario.

F. H. Fullerton,
British Columbia.

Prize Winning Recipe, Illinois State Fair, '34

Recipes from Illinois were sent to us by Mrs. Rutha King, of Springfield, who was the Chairman of the Committee of the Culinary Department at the State Fair. We cannot spare space for the complete list but will publish them month by month.

1st Prize—Honey Devils Food Cake
Miss Matilda Johnson of Petersburg

The recipe which follows for Honey Devils Food Cake was the winner in 308 competing cakes. It took the sweepstake:

¾ cup honey
½ cup sugar
¾ cup milk
2½ cups cake flour
½ teaspoonful soda
½ cup fat
1 egg
2 squares bitter chocolate
½ teaspoon salt
2 teaspoonsful baking powder

Cream sugar, fat and honey thoroughly. Add egg-yolk well beaten, then melted chocolate. Add sifted dry ingredients alternately with liquid. Fold in egg white beaten until stiff. Bake in moderate oven (350° F.) for 45 to 50 minutes.

70TH ANNIVERSARY

SALE of PIANOS at LYON & HEALY

This is your great opportunity to invest in the Musical Education, Cultural Development and Happiness of your family.

Scores of Unusual Bargains in Exchanged, Floor Samples and Nearly-new Pianos

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In perfect condition priced from $875 to $1000

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Yancey Hustler Queens
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—BRED FOR BUSINESS STRICTLY—
1 to 9, 70c ea.; 10 to 24, 65c ea.; 50 or more, 50c ea.
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for 1935 Lady-like Caucasians
Our Mating Guarantee Is Your Protection
True stock from selected breeders.
Send for FREE CIRCULAR.
CAUCASIAN APIARIES, Brooklyn, Ala.

"EAT HONEY" STICKERS
To paste on your letters, envelopes and packages.
A constant honey advertisement.
White letters on ½"x2" red paper —"Eat Honey"—Gummed for use.
1000, 40c. 100, 20c. Postpaid.
AMERICAN BEE JOURNAL
Hamilton, Illinois

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Our Motto:—Utility, Beauty and Satisfaction to the Buyer.

We ship only young laying queens of the best type that experience and careful selection can produce. We produce the queens for our own northern apiaries; and we guarantee them to please you.

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Queens for export will be carefully packed in long distance cages, but safe delivery is not guaranteed, except in North America.

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Queens	Comb Honey	Extracted Honey

WANTED -- HONEY

CARLOADS OR LESS CARLOAD QUANTITIES

White or Extra Light Amber Grading

Send us samples and best price, freight allowed New York.

HONEY PACKERS, Inc.

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DEPENDABLE ITALIAN QUEENS

Our Summer and Fall flow has begun, making natural conditions ideal for rearing extra fine queens.

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Orders received by noon are shipped same day.

PRICES FOR BALANCE OF SEASON:

1-9	10-24	25-49	50-99	100-249	250 or more
70c	65c	55c	50c	45c	42½c

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Attractive New Labels . .

For SUNBURST JARS (page 434)

For BEEHIVE JARS (page 465)

These fit exactly into the label spaces on either kind of jar. Write for samples to see how well they look and for prices.

American Bee Journal - : - Hamilton, Illinois

Wanted Shipments of Old Combs for rendering into Wax.

WRITE FOR FULL PARTICULARS

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PACKAGE BEES *for* 1935

At code prices. Let us save you money by furnishing good queens with the packages.

The CROWVILLE APIARIES

Winnsboro, Louisiana

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The Southern beekeeper's own magazine, but read by honey-producers everywhere. Combined with the American Bee Journal makes a combination that covers the beekeeping field.

Send $1.50 and get both magazines for a full year.

BEEKEEPERS ITEM, San Antonio, Tex.

Italian Queens

Write for our free book "About Bees" which is a brief treatise on Beekeeping.

JAY SMITH

ROUTE FIVE VINCENNES, IND.

STATEMENT OF OWNERSHIP

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 2, 1912, of American Bee Journal, published monthly at Hamilton, Illinois, for October 1, 1934.

STATE OF ILLINOIS, } ss.
County of Hancock, }

Before me, a notary public in and for the state and county aforesaid, personally appeared M. G. Dadant, who, having been duly sworn according to law, deposes and says that he is the business manager of the American Bee Journal, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, rendered by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are:

Publishers, American Bee Journal, Hamilton, Ill.

Editor, C. P. Dadant Hamilton, Ill.

Managing editor, G. H. Cale, Hamilton, Ill.

Business manager, M. G. Dadant, Hamilton, Ill.

2. That owners are:

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That the known bondholders, mortgagees and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages or other securities are: None.

(Signed) M. G. DADANT,
Business Manager American Bee Journal.

Sworn to and subscribed before me this nineteenth day of September, 1934.

MINNIE S. KING,
Notary Public.

My commission expires Nov. 18, 1937.

Crop and Market Report

Compiled by M. G. Dadant.

For our October Crop and Market Report, we asked reporters to answer the following questions:

1. How big is the total crop?
2. How is honey demand?
3. Are prices above last year?

How Big Is the Total Crop?

There has been some improvement in the total crop since our last report, that is in some sections. A few states now will report at least as much honey as last year although the number is limited. Roughly the New England states have a bigger per colony average than last year but the number of colonies is perhaps less and this applies especially to New York. New Jersey is likely average as are Maryland and West Virginia.

Pennsylvania and Ohio probably rank better than any other states in the Union unless it would be perhaps the irrigated sections of Washington. Idaho would rank pretty well up also, the two former having perhaps 120 per cent of last year and Idaho ranking 110 per cent with Washington claiming about the same.

The whole Southeast is woefully light and this applies clear through to Texas which will probably have not over 40 to 50 per cent of last year. Similar conditions apply to New Mexico and Arizona.

In the Central States, Indiana has probably 75 per cent of last year's crop, Illinois and Iowa only rank from 40 to 50 per cent with, of course, some favored locations. Missouri, Arkansas and Oklahoma probably are the worst hit of any states in the Union as Arkansas doesn't claim a pound of surplus and Missouri probably not over 20 to 25 per cent of last year although the northwest section does have some nice honey.

Michigan in the northern sections and northen peninsula will run about 80 to 90 per cent of last year but in the southern sections not over 50 per cent and Wisconsin and Minnesota also will range about 50 per cent, the crop having been spotted and there being streaks of drouth which have cut down considerably. Even in the favored sections, the crop is not as large as last year.

South Dakota in the eastern part has nothing, but in the Black Hills where there is irrigation, the crop will probably be 75 per cent of last year. North Dakota will only rank probably 60 per cent of last year and Nebraska and Kansas down to likely 30 per cent of a year ago.

The Intermountain states are equally woefully situated although Colorado has had some improvement. Likely their total crop will run 75 per cent of a year ago. Utah, however, claims a smaller crop than they have had in many, many years and likely not over 30 per cent of the year of 1933. Wyoming is similarly situated. Montana will not have over 60 per cent of a crop except in the Milk River district where conditions seem to be a little better although the drouth still continues. Oregon is light and Washington as mentioned before, has a good crop in some sections. California will have probably 50 per cent of last year in the southern sections and 75 per cent in the northern with a big part of the country where bees are starving and having to be fed heavily on sugar syrup.

The drouth conditions extend into Ontario and the crop will not be over 60 per cent there of what it was a year ago. Simlar conditions are evident in Manitoba and perhaps more drouth has struck Saskatchewan and Alberta so that they will not have over 50 per cent of a crop. British Columbia likely will be normal.

Demand.

Inpractically all sections of the country except the extreme drouth hit sections, the demand for honey is better than it was a year ago ranging all the way from equal to a year ago up to 150 per cent.

In a jobbing way in carlots, the demand has been much better early for honey than it was in 1933. Buyers seem to be eagerly trying to pick up what honey there was but, of course, at prices which they thought they could afford to pay.

The local demand, of course, has not appeared yet because the warm weather is still continuing but the fact that sorghum was practically a failure in many sections of the country gave an added impetus to the sale of honey. In fact sorghum prospects have improved in the past month but the prices of sorghum are up nearly 50 per cent above what they were a year ago which behooves well for the prices of honey.

Prices.

Practically all sections of the country also advanced prices on honey.

In a jobbing way, prices are up from 1 cent to 2 cents per pound over last year.

We look for a stability of honey price somewhere in the neighborhood so that packers would be able to get it at not over 8 cents per pound delivered. This would mean a price of 6½ to 7 cents per pound f.o.b. producers' shipping point.

Below we repeat our quotations of last month which we think are relatively correct.

	Car Lot White	Car Lot Amber	Ton Lots	1-60	10-lb. to Grocer	10-lb. Retail	5-lb. to Grocer	5-lb. Retail	16-oz. to Grocer	16-oz. Retail	8-oz. to Grocer	8-oz. Retail	Comb Section	Comb Case
Northeast	$ .07½	$ .07	$ .08	$ .09	$1.20	$1.50	$ .55	$ .75	$ .18	$ .25	$ .11	$ .15	$ .25	$4.50
Southeast	.07	.06½	.08	.09	.90	1.20	.50	.65	.15½	.20	.10	.14	.15	3.00
South	--	--	.08½	.09	.90	1.20	.45	.60	.15½	.20	.10	.14	.15	3.00
Texas	.06	.06	.06½	.08	.85	1.10	.45	.55	.15	.20	.10	.14	.15	3.00
Southwest	.05½	.05¼	.06	.07	.75	.90	.40	.50	--	--	--	--	.15	3.00
N. Central	.07	.06½	.07½	.08½	.95	1.20	.50	.65	.15½	.20	.10	.15	.20	4.00
Plains	.07	.06½	.07½	.08	.95	1.20	.50	.65	.15½	.20	.10	.15	.20	4.00
In.-Mount.	.06½	.06	.07	.07½	.70	.90	.38	.50	.14	.20	.09	.13	.15	3.25
Northwest	.06	.06	.07	.08	.70	.90	.40	.55	.14	.20	.09	.13	.15	3.25
California	.06½	.05½	.07	.08	.90	1.10	.47	.60	.14	.20	.09	.13	.15	3.25

BULK COMB—10% above extracted prices.
AMBER—5% to 10% below white prices.

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Have you gone over your equipment? Have you plenty supplies? Advertisers in the American Bee Journal will welcome any inquiry sent to them.

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Write for Our Special Club Offers
AMERICAN BEE JOURNAL

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Buy and Sell All Grades Extracted Honey
References: 1st National Bank, R. G. Dun or Bradstreets Commercial Reports.

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Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

BEES AND QUEENS

ITALIAN Queens. Northern bred, for Northern conditions.
Eugene Gordon, North Platte, Nebraska.

"SHE-SUITS-ME" queens. Prices after May 31, 80c per queen; 6 for $4.50. 12 for $8. Linebred, three-banded stock.
Allen Latham, Norwichtown, Conn.

THREE-BANDED Italian Queens that produce good workers and gentle to work with at code prices.
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T. W. Burleson & Son, Waxahachie, Texas.

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W. H. Rails, 165 S. Clark St., Orange, Calif.

MOUNTAIN GRAY CAUCASIAN Bees and Queens. Get in touch with us for your 1935 needs. Bolling Bee Co., Bolling, Ala.

LAST CHANCE TO REQUEEN—Closing out for the season, lowest code prices. Prompt shipment. Certified and accredited by Alabama Department of Agriculture and Industries. 1, 70c; 10 or more, 65c each; 50 or more, 50c each.
J. M. Cutts & Sons, R. 1, Montgomery, Ala.

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CHOICE Michigan Clover Honey. New 60's.
David Running, Filion, Michigan.

HONEY FOR SALE—Keep your customers supplied with honey. We can furnish white and light amber honey at attractive prices. Packed in 60-lb., 10-lb. or 5-lb. tins.
Dadant & Sons, Hamilton, Ill.

FOR SALE—Northern white extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—Well ripened clover honey, carlot or local shipments. Will be pleased to submit sample. Also new crop section comb honey, in carrier crates of four or eight cases. The Colorado Honey Producers' Association, Denver, Colorado.

WHITE clover extracted honey. Write for prices and sample.
Kalona Honey Co., Kalona, Iowa.

FOR SALE—Extracted white honey in used cans, $8.25 per 120 pounds. Edw. Hogan, 210 Gibson St., Canandaigua, New York.

CHOICE WHITE CLOVER HONEY in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

BLACK HILLS—White extracted honey in 60-lb. cans. Sample 25c.
Ernest W. Fox, Fruitdale, S. Dakota.

600 CASES clover basswood comb honey.
Chas. Guhl, R. 7, Napoleon, Ohio.

EXTRACTED WHITE CLOVER HONEY in 5-lb. pails and 60-lb. cans. 1-lb. sample 20c. Also comb honey.
F. W. Summerfield, Grand Rapids, Ohio.

OAKVALE APIARY'S finest clover comb honey. Forrest Dygert, Hammond, N. Y.

SEND FOR HONEY PRICES; discount for quantity orders.
H. G. Quirin, Bellevue, Ohio.

200 CASES WHITE CLOVER comb honey; also extracted. Carl Schweinhagen, Rt. 3, Defiance, Ohio.

BUCKWHEAT HONEY in 5, 10 and 60-lb. tins. Henry Stewart, Prophetstown, Ill.

EXTRA FINE CLOVER HONEY. Case or car. Edw. Klein, Gurnee, Ill.

COMB AND EXTRACTED. Write me for prices. Kildow-Wright, Putnam, Ill.

5 TONS WHITE CLOVER extracted and comb. S. Hyberg, Hamel, Minn.

WHITE CLOVER, Amber, Buckwheat—both comb and extracted—all grades. Discount on quantity lots.
Write F. J. Smith, Castalia, Ohio.

KIRK'S best quality sweet clover honey in new sixties. Case or carload. Satisfaction guaranteed. Prices on request. Sample twenty cents.
Harry C. Kirk, Armstrong, Iowa.

FINE QUALITY extracted honey for sale. Write for prices. Henry Price, Elizabeth, Illinois.

1934 GRANULATED Clover Basswood Honey blended by the bees. Well ripened, heavy of body, fine taste and a nice very light amber color. $4.50 a 60-lb. can. For larger orders write for prices. Sample 10 cents. M. Noack, 3911 Polk St., Chicago, Ill.

WHITE CLOVER—Basswood extracted in new cans and cases, ten dollars per case or eight cents in ten case lots.
A. J. Wilson, Hammond, N. Y.

HOWDY'S HONEY—White, clover extracted in new sixties, $5 per can. Ton or more, 8c per pound. F.O.B. Ithaca. Howard Potter, Ithaca, Mich. (Personal—Harvard University, Cambridge, Mass.)

FANCY WRAPPED COMB HONEY, six case lots, four dollars per case. Number one, in paper case, three fifty. Number one Amber and Clover mixed not wrapped, two fifty. In quantity lots write—liberal discount. N. B. Querin & Son, Bellevue, Ohio.

WATER WHITE EXTRACTED HONEY 6½ cents per pound. Ton or carload.
McIntire & Sons, Fruitdale, S. Dakota.

HONEY AND BEESWAX WANTED

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—HONEY and BEESWAX. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. CALIFORNIA HONEY COMPANY, Hamilton & Company, Agents, 108 W. Sixth Street, Los Angeles, Californa.

WANTED—All grades of honey, either carlots or less. Send sample with lowest price delivered Ripon, Wisconsin.
Schultz Honey Co., Ripon, Wisconsin.

WANTED—Carlots or less of white clover extracted honey. Mail price and sample to Clover Blossom Honey Co., Columbus, O.

CASH FOR DARK GRADES OF HONEY.
C. Jankowski, Gurnee, Illinois.

FOR SALE

LEWIS WAX PRESS and 250 chick brooder. R. Davidson, 1401 Fairmount, Middletown, Ohio.

FOR SALE—Old-fashioned round straw beehives. G. Korn, Berrien Springs, Mich.

SUPPLIES

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

DIFFERENT, that's all. Written and published for the instruction of beekeepers. 52 pages of breezy entertaining beekeeping comment each month. One year, $1.00; two years, $1.50. Sample, 3c stamp.
The Beekeepers Item, San Antonio, Texas.

THE PINARD Nailless Queen Bee Shipping Cage. Send for Sample. Agents—Diamond Match Co., Chico, Calif.; Roy S. Weaver & Bro., Navasota, Texas. A. B. Pinard, Mfg., 810 Auzerais, San Jose, Calif.

SAVE queens. Safin cages now 15c. Ten for $1.00. Allen Latham, Norwichtown, Connecticut.

MISCELLANEOUS

PLANS FOR POULTRY HOUSES — All styles; 150 illustrations. Tells you the type to build for your particular locality. Secret of getting winter eggs, and copy of "Inland." Send 25c. Inland Poultry Journal, Spencer, Indiana.

UP TO $50.00 paid for Indian Head Cents, Half Cents $250.00; Large Cents $2,000.00 etc. Send Dime for list. ROMANOCOIN-SHOP, Dept. 103, Springfield, Mass.

WE BUY LINCOLN HEAD PENNIES. Will pay up to $2.00 each if over ten years old. Indian Head Pennies worth up to $51.00 each. Send 10c for BUYING CATALOG. CONTINENTAL COIN CO., INCORPORATED, SA-111 W. Jackson, Chicago.

LETTERHEADS, envelopes, lowest prices, quality considered. Samples, prices free. Beekeepers Printing Company, 1010 Eighth, Watertown, Wis.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the worlds news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, Brockhill, London Road, Camberley, Surrey, England.

Use Caution This Fall

Do not neglect to inspect every colony for A. F. B. this fall before the brood is all emerged. Remember that a single infected cell now will mean a badly diseased or dead colony next spring, liable to infect your whole yard. Unless you are looking for trouble you will gas the bees at once and burn the contents of the hive wherever disease is found, even if only a few cells.

Because A. F. B. sometimes apparently disappears, don't imagine that you can build up a strain of bees that will be immune to the disease. Any experimenting along this line should be left to those who through experience and scientific training are qualified to undertake it. Even then, the chances are against success.

E. S. Miller, Indiana.

San Bernardino County Honey Recommendations

A recent letter from the Secretary of the San Bernardino County Honey Producers' Association, Mrs. Herbert M. Yates, states that their association has recently recommended a price for orange honey of 8 cents a pound and suggested that producers are justified in holding their honey for this price.

While this recommendation is not binding on members, it is assumed that most of them will abide by it. The orange honey producers have felt their honey has gone down far more in proportion than other honeys.

Asotin, Washington Plans for More Bees

With the demand for honey growing and the need of more bees for pollination of fruit, efforts will be made to bring in from 800 to 1000 more colonies in Asotin County before next spring, according to Clyde Foster, State Inspector.

Honey is wholesaling at a good price and the demand cannot be supplied by shipment from other districts. Some producers are retailing honey at from 12 to 15 cents a pound and realizing a fair profit for their investment and work. The honey is largely from sweet clover and alfalfa.

The next few years should be favorable for honey production in this county because the farmers are being urged to plant sweet clover on their surplus acreage that has been taken out of production. Farmers and tract owners will also be encouraged to plant more clover for soil improvement and also for bee culture.

In addition to the benefits in honey, the fruit crops could be increased 10 per cent through the establishment of colonies. Some of the orchards show a lack of pollination.

The Asotin County Beekeepers' Association will ask at the next meeting of county commissioners for money for inspection.

Rae Pingree,
Idaho.

No More Let-Alone Plans

Please do not send for any more directions for making the Latham Let- alone-hive because my entire directions have been exhausted. I hardly expected so many people to ask for them.

Allen Latham,
Connecticut.

Wanted White Extracted Honey
Send Sample and best price Frt. Paid to Cincinnati, O.
THE FRED. W. MUTH CO.

HALF MILLION
MERRILL'S QUALITY QUEENS
have been used in 25 years, we believe they are good, you try them and let us know how they work for you.
PRICES—ITALIAN QUEENS—1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50; 100-250, 45c; 250 or more, 42½c.
MERRILL BEE COMPANY, BUCATUNNA, MISSISSIPPI
Mississippi's Oldest Shippers

Here Is Your Chance for Low Cost Production
Come to the great Northwest. Thousands of acres of sweet clover and other honey plants that give honey of high yield and fine quality. Favorable localities—Red River Valley, in Minnesota and North Dakota; Milk River Valley; Lower Yellowstone Valley; Valier Project; Kootenay Valley, in Montana and Idaho; and the Pacific Coast Region, in Oregon and Washington.
Beekeepers in this country are increasing their holdings and new beekeepers are establishing themselves along the Great Northern Railway in these states. Diversified farming and live stock are similarly favored by low cost production.
Write for Free Booklet on beekeeping and farming opportunities, including Low Homeseekers' Round Trip Excursion Rates.
E. C. LEEDY
DEPT. J, GREAT NORTHERN RAILWAY, ST. PAUL, MINNESOTA.

WALTER T. KELLEY

PADUCAH, KY.
I beg to announce that I have moved my factory to Paducah, Kentucky, from which point I will be able to serve you better and cheaper than ever before. Many trains leave Paducah every day and the freight rates are actually less to and from Paducah to most points in the South (excepting Louisiana) than to and from Houma. This is why I moved to Paducah.
WAX WORKED INTO FOUNDATION
Let me work your wax into beecomb foundation this fall. I will do this on a cash basis or take my working charges out in wax.
QUEENS
Select laying Italian queen bees. Send your orders to me at Paducah for quick delivery.
1 to 9, 70c; 9 to 24, 65c; 25 to 49, 55c; 50 or more, 50c.
WAX AND HONEY OR WHAT HAVE YOU ACCEPTED IN TRADE
The WALTER T. KELLEY CO., PADUCAH, KENTUCKY

Jensen's "Magnolia State" Three-Banded Italians
RIGHT NOW SERVICE
It is our policy to treat everyone fairly, and to make no claims we cannot substantiate. You have a right to the truth in advertising as well as in the quality of the product itself. Our customers' recommendations speak louder than our own ballyhoo. Our business is bees and queens; successful because through our efforts to improve our strain, you are succeeding with them.
Ashcroft, B. C., Canada.
July 6th, 1934.
"Dear Sir:
Received fifteen queens shipped on the 2nd. Queens and all attendants arrived alive. You are the promptest shipper of queens I have ever tried. Have bought queens from you off and on for past ten years and they have averaged well. I may have to increase the original order yet."
Prices balance of season: Select Untested: 1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-249, 45c; and 250 or more, 42½c each. Package bees at Code prices.
JENSEN'S APIARIES, Crawford, Miss., U. S. A.

The POSTSCRIPT

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

Since the earliest writers on bees mention smoke as a means of control, it seems a bit strange that beekeepers were so long in developing a practical smoker. Columella, who wrote more than eighteen hundred years ago, described a smoker which was a handled earthenware pot one end of which had a narrow opening through which the smoke could come out, the other was wider in which the beekeeper could blow. The fuel was dried cow manure placed on hot coals.

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From Aristotle's writings of three hundred years earlier we learn that bees gorge themselves only when smoked. Apparently men learned the value of smoke almost as early as they sought to control the bees and profit from their labor.

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In the earliest written history there are common references to bees which indicate that the insects have been closely associated with man since his first attempts to live by the cultivation of the soil and the domestication of animals. Such references date back for more than five thousand years. How fortunate we are that discoverers like Langstroth and his contemporaries have given us smokers and hives with frames, foundation, extractors, etc. all of which have been developed within the lifetime of men yet living.

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Reports of killing of bees by poison sprays continue to come from new localities. The increase of the use of poison offers a very real problem to the beekeeper. The latest to come to this desk of the killing of bees is in the Sacramento Valley through the spreading of arsenicals by aeroplane dusting. It would seem that when a beekeeper is compelled to move through such action he should be entitled to remuneration for his loss. He finds himself in a hard situation but where can he go and find safety?

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A Nebraska reader, Wm. T. Malmrose, sends us a book of delightful poems written by a courageous young girl confined to the State Sanitarium at Norton, Kansas. Her name is Marjorie McVicker and her happy spirit is reflected in her verses.

"We search abroad for happiness
We travel out and in
Before we find that joy is just
A state of mind within."

The one who admires the unconquered spirit who refuses to admit defeat, will send Marjorie a dollar for her book of verses and thus lend a bit of encouragement while getting full value for his money.

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How closely beekeeping is related to gardening is best illustrated by the interest which one subject develops in the other. E. M. Cole, of Iowa, has long been interested in bees. Quite naturally he became interested in the honey plants and from these it was only a step to plants in general. Of late, with his friend Grant Kness, he scours the woods for a hundred miles around in search of new native plants. I have had a wild flower preserve for twenty-five years but Cole has overtaken me and knows the native flora as well in one fourth that time.

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The first report of frost came from W. J. Blume, of Sarona, Wisconsin, on August 20. What a country of extremes is our Mid-West. In July we had temperatures above 110 degrees in the shade for several days in succession. From 110 above in summer to twenty or more below in winter is some change.

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A report from the Texas Experiment Station at Weslaco gives the total yield of an acre of Hubam clover as seventeen tons of green forage. This was a higher yield than any other forage crop under test. How much honey Weslaco bees harvested from the plot is not stated.

The split sections with three sides cut through to permit the use of a single sheet of foundation in four sections has numerous advocates. While it has some advantages the public is inclined to be suspicious of the line of wax showing on the outside and to think the product may be manufactured. Only a few years ago a Mid-Western beekeeper thought he had invented something new when he thought of the split section. The patent office evidently thought so too for he was granted a patent on it. The split section was offered in England by Samuel Simmins as long ago as 1886 and has been in use since that time.

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Bee books and garden catalogs are far pleasanter reading than the newspapers in these troubled times. One's state of mind is much affected by what he reads. Happy is the man whose interest lies in quiet country activities. Beekeepers sleep better than bankers of late, and gardeners are more comfortable than politicians.

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It is hard to realize what a revolution has taken place in the beekeeping industry since the invention of the movable frame hive. In 1872, D. L. Adair, in his "Progressive Bee Culture," wrote that when Mr. Colvin stated in the Patent Office Report that an apiary might be made to yield fifty pounds of honey to each hive, but few believed it.

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C. W. Aeppler sends us some very interesting advertising matter of "Cuban Health Honey" made by the wild bees in the mountains of Cuba. It is recommended for stomach troubles, asthma, and numerous other ailments. Put up in sixteen-ounce bottles it is offered at $2.50 per pound. Now then if only the public can be persuaded that honey is the remedy for all their ills we will all be selling "Health Honey" whether it be Illinois honey, Wisconsin honey or California honey.

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It is interesting to note that the packers of this special wild honey publish a sheet of testimonials from persons who have used the honey and recovered from their diseases as a result. The late Doctor Bonney once told me that the doctor or remedy which gets the credit for the cure is the one who happens to be so fortunate as to be on the job when nature calls the turn and the patient begins to improve. At that I am quite willing that folks have faith in the curative properties of honey. At least it should do them no harm.

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Now to wind up a disastrous season some beekeepers report that their bees have filled their hives with honeydew. After the heavy winter losses in the East and the heavy losses through the drouth in the West, the honeydew is the last straw. It is to be hoped that this condition has not been general. The general expectation is for a cold and trying winter ahead. It is to be hoped that this prophecy will not be realized. Now that about everything disagreeable has happened let us hope for happy and prosperous days ahead once again.

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It seems to me that beekeepers as a class are more consistent in featuring their own product than most. Honey is nearly always to be found on a beekeeper's table. It is said that a committee appointed to meet the florists coming from the East to attend a convention at Chicago were unable to identify the folks they came to meet. When a lady alighted from the train wearing flowers it was assumed that she must be a member of the party. When approached with the question as to whether she was a visiting florist she replied that she was not but that she came to deliver two pedigreed puppies which she had in a basket. It is strange that it did not occur to the florists that it would be appropriate for them to wear flowers.

FRANK C. PELLETT.